

THE ARCHITECTURAL REVIEW VOLUME CXXX NUMBER 779 OCTOBER 1961 FIVE SHILLINGS

*
'Paints? We can depend on Mason's. Remember the Belle Isle G Plan project at Leeds?'



* Belle Isle Secondary School. Architects—Samuel Morrison & Partners, in conjunction with the late R. A. H. LIVETT ESQ., OBE, ARIBA, Leeds City Architect. Contractors—Gee, Walker and Slater Ltd. Paints used—MASOPAR AND MASOTEX.

Have you had your copies of our two helpful books for architects—"Joseph Mason Paint Specifications" and "Architects' Special Colour Range".

joseph mason paints

JOSEPH MASON & COMPANY LIMITED · DERBY · TEL: 40691-2-3

DEPOTS: LONDON · PRESTON AND KIRKCALDY · SCOTLAND

Manufacturers of very good paints since 1800

WORLD



2

PROFILE

There are a certain class of buildings that seem to surprise themselves by setting out to do something simple and ending by making an unexpectedly dramatic architectural gesture, a kind of Functional Expressionism. The Auckland Racing Club's new grandstand at Ellerslie, NZ, is a case in point, 1. The architects—Wilson, Moodie and Gillespie—do not appear to have set out with any intentions beyond making an honest job of a straightforward functional problem, and their absence of pretensions is underlined by the extensive use of standard aluminium profiles and corrugated sheets on external surfaces. But design decisions, such as carrying the roof-canopy under the roof truss (so as to give no perch to birds) and present a flush under-surface, 2, and the cantilevering of the upper balcony in order not to obstruct the view from

the lower one with supports, resulted in a building whose section, consisting of two sophisticated space-frames and little else, 3, is like nothing the modern movement has seen since some early Russian projects of the Constructivist epoch. The engineers, Grey, Watts and Beca, are clearly to be bracketed in any credits that are given for the achievement of this design and the space-frame tracery that holds it up, but somewhere in the argument must be some one person, be he architect or engineer, who conceived the idea that resulted in this extraordinarily expressive 315-foot long wedge section of uncluttered viewing space.

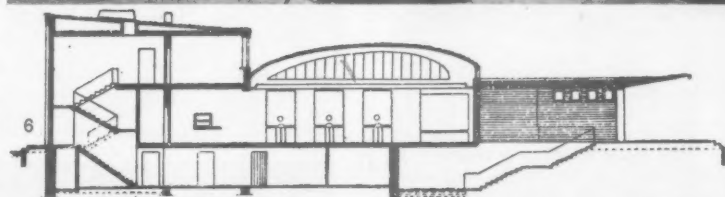
3



WAWER

Polish railway architecture

Wawer station, 4, in the Warsaw suburbs, affords an instructive comparison with current British Railways practice, and an equally constructive contrast with what is commonly regarded as the approved style for Socialist Realist railway architecture, as exemplified by the Moscow underground. The booking-hall, on the street side, is housed under an asymmetrical saucer dome, 5 (and section, 6) which, if not of heroic scale, still represents a structural adventure that

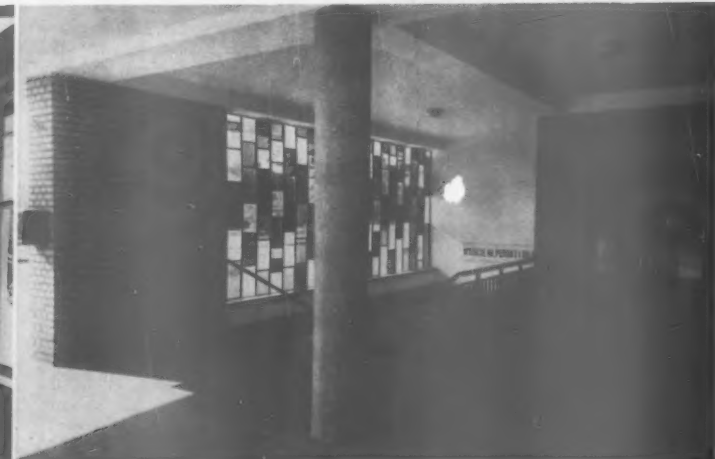


is fully competitive with Midland Region's wooden hyperboloids (see AR May, 1961). The stairs down to the

subway are flanked by a screen window of stained glass, 7 (Harlow was never like this!) and—even more unlike

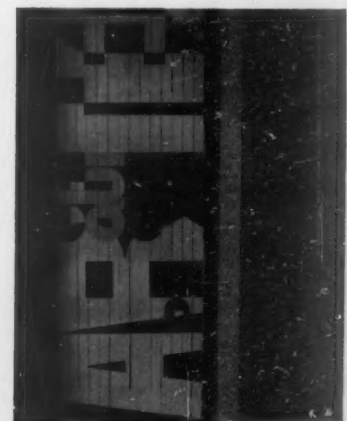
British practice—are accessible from the street without buying a ticket, but this appears to be due to the fact that the subway also serves as a public underpass from the far side of the tracks via the entrance unit, complete with yet another wall of stained glass, just visible in 8. At the island platform, the stairs come up under the canopy, which—though strictly intended as a backbone structure carried on a row of central columns

8



ACKNOWLEDGMENTS

COVER: Kenneth Browne. WORLD, pages 221-224: 1-3, Alcan Industries; 4-9, *Architektura*; 10-12, *Cimaise*; 13, *Techniques & Architecture*; 14-16, *Interiors*; 17-23, *Domus*; 24-30, *Bauen + Wohnen*. VIEWS AND REVIEWS, pages 225-227: 3, 4, Galwey Arphot. BETTER BYPASSES, pages 229-235: 1, COI; 2-5, G. L. Ward; 6, 10, 12, 14, 17, 18, 20, Toomey Arphot; 7-9, 15, Galwey Arphot; 11, 13, 19, R. Spurrier. FLATS AT GRIMSTA, pages 237-238; Rolfe Hintze. FLATS AT KEVANGA, page 239: 3, Studio Gullers. 4, Oscar Bladh. LIBRARIES, page 240: top, Helga Schmidt-Glassner; bottom, Cervin Robinson. Nutrimentum Spiritus, pages 241-243: 1, 26, Courtauld Institute; 2-5, 13, National Buildings Record; 6, *Country Life*; 7-10, 12, The Mansell Collection; 14, Lala Aufsberg; 15, 16, Helga Schmidt-Glassner; 17, Neubacher; 24, A. C. Barrington Brown; 25, Bildarchiv Foto Marburg. Communicating with Individuals, pages 245-256: 1, 2, Gerald Gard; 3, Cervin Robinson; 4, 5, Ben Schnall; 6, 7, page 251, top, Foto Kessler; 9, William Tassie; 10, Paul Wilson; 11-14, Thomas Pedersen; 15, 16, Galwey Arphot. 17-19, Alfred Cracknell; 20, Jesper Hom; 22, 23, Frank Lotz Miller; 24, Art Hupy; 25, 26, page 251, left, Henk Snoek. 1 D, pages 261-266: 1-3, 6, 9, 10, 13, 14-17, Bryan Heseltine; 4, 5, Heal's Contracts; 7, Stewart Bale; 12, P & O. UNDERGRADUATE ROOMS, WORCESTER COLLEGE OXFORD, pages 269-271: 1, 3, 4, 6, 7, Dmitri Kasterine; 2, 5, Galwey Arphot. BOY SCOUTS' HOSTEL, KENSINGTON, LONDON, pages 271-273: Galwey Arphot. SCHOOL AT HIGHGATE, LONDON, pages 247-276: 1, 2, 5, 6, 9, Toomey Arphot. MISCELLANY, pages 277-288: Exhibitions, 1-3, Arts Council of Great Britain; 5, 6, Grosvenor Gallery; 7, Hanover Gallery; 8, 9, Marlborough Fine Art; 10, Walton Adams & Son. History (Schinkel), 1, Dr. Franz Stoodtner; (House Traditions in Malaya), 1-3, 5-13, J. Posener; 4, 14-16, Federal Information Service; 17-19, Carl Wilhelm Voltz. Plants, 1, 3-5, Tania Stanham; 2, J. E. Downward; 6, Toomey Arphot. Outrage, Nairn Arphot. THE INDUSTRY, pages 292-294: 3, Studio Cole.



The Cover The painted lettering by Edward Wright on the timber walls of one of Theo Crosby's congress buildings on the South Bank makes by chance a contribution to the series of covers based on the AR's own initials. The exhibition building of which a corner is here shown was one of two temporary buildings put up to accommodate this summer's congress in London of the International Union of Architects, to which the July AR made special reference.

THE ARCHITECTURAL REVIEW

9-13 QUEEN ANNE'S GATE, WESTMINSTER,
SW1 WHITEHALL 0611 FIVE SHILLINGS
VOLUME 130 NUMBER 776
OCTOBER 1961

SUBSCRIPTION RATE:—The annual post free subscription rate, payable in advance, is £3 3s. 0d. sterling, in USA and Canada \$10.50, in Italy Lira 6940, elsewhere abroad £3 10s. 0d. Italian subscription agents: *Libreria Salto*, via V. di Modrone 18, Milano; *Libreria Dedalo*, Via Barberis 75-77, Roma. An index is issued half-yearly and is published as a supplement to the REVIEW.

Directing Editors J. M. Richards
Nikolaus Pevsner
H. de C. Hastings
Hugh Casson

Executive Editor J. M. Richards

Assistant Executive Editor Reyner Banham

Assistant Editor (Production) William Slack

Features Editor Kenneth Browne

Technical Editor Lance Wright

Assistant Editor (Counter Attack) Ian Nairn

Staff Photographers De Burgh Galwey
W. J. Toomey

Advertisement Manager V. V. Tatlock

- 221 World
- 225 Views and Reviews
- 228 Frontispiece
- 229 Better Bypasses:
Raymond Spurrer
- 236 Flats at Grimsta:
Architect, Sverker Feuk
Flats at Kevanga:
Architect, Gunnar Jacobsen
- 240 Libraries:
1. *Nutrimentum Spiritus:*
Nikolaus Pevsner
2. *Communicating with*
Individuals: Michael Brawne
- 257 Rye: *Kenneth Browne*
- 261 Interior Design:
88 Canberra:
Co-ordinators of interior design,
Sir Hugh Casson, Neville Conder and
Partners in association with McInnes
Gardner and Partners
- 267 Metallurgic Architecture
1844: *Peter Collins*
- 269 Undergraduate Rooms,
Worcester College, Oxford:
Architects, Sir Hugh Casson,
Neville Conder and Partners
- 271 Boy Scouts' Hostel,
Kensington, London:
Architect, Ralph Tubbs
- 274 School at Highgate, London:
Architect, Stephen Gardiner
- Miscellany**
- 277 Exhibitions
- 280 History
- 284 Plants
- 286 Outrage
- 290 Skill:
The New IES Code:
R. G. Hopkinson
- 292 The Industry
- 294 Contractors, etc.



9 Wawer

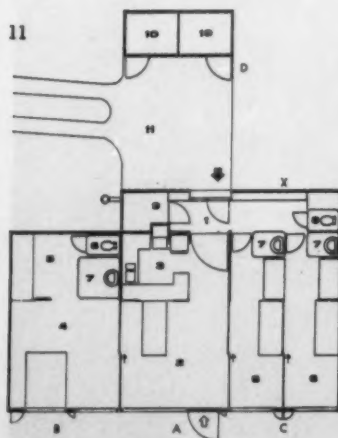
—has its supports modified to provide portal frames wide enough, 9, to span the stairs at this point. Although the British preference for Functional

Traditionalism might fight shy of stained glass, etc., as being inappropriate to a decent railway style, Wawer is pretty restrained by comparison with some recent German architecture in the same idiom.

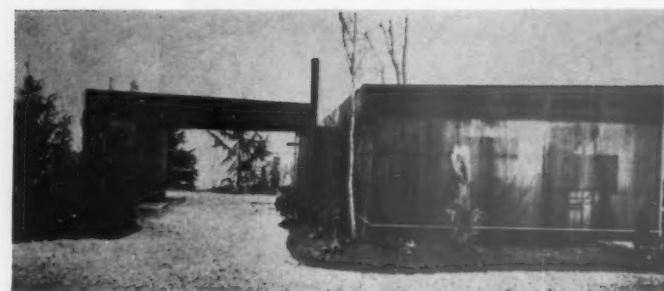


10

MEX



The fairly widespread tendency to see French architecture as once more split into two hostile camps, one devoted to architecture as an art and the other obsessed with technique, Corb at the head of one and Jean Prouvé of the other, should receive some well-deserved revision following the publication of MEX, 10, the extensible house commissioned for the Salon des Arts Menagers by *Elle*, the highly esteemed women's magazine. Designed by André Wogenscky, Le Corbusier's former *chef d'atelier*, on the proposition that 'the financial necessity of standardization is no longer disputed' it breaks down the function and structure of the dwelling in a manner related to, though less radical than, the techniques employed by Berua or Jacques Baudouin (AR April, 1960). The prefabricated elements that can be assembled to form a house that grows with a growing family and shrinks with a dwindling one, are seen in the plan, 11—a, the living/kitchen unit; b, the parents' room, and c, the children's room(s), with two storage units (10 on plan) to

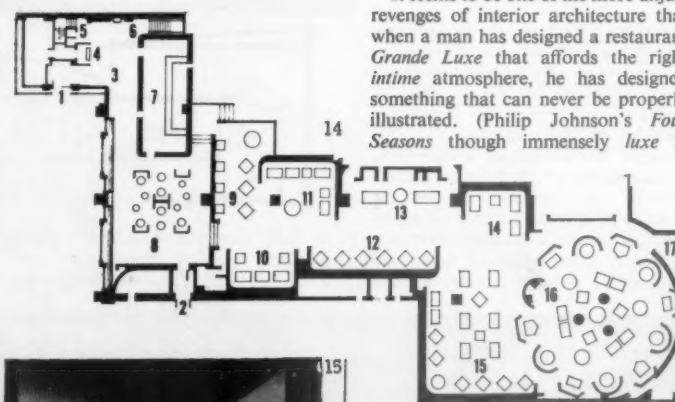


12

support the free end of the car-port seen in 12. Although, as will be noted, the service areas are not separated from the living spaces, but are very elegantly designed into them, 13, the subsidiary X-unit (corridor, wc, etc.—1, 8 and 9 on plan) permits considerable freedom of planning, and the assembly of houses of considerable size if need be. One wonders what the fate of this project will be—it is by far the most sophisticated pre-fab conceived in terms of available structural techniques (sandwich panels, lightweight trusses, wood, fibre-glass, foamed polystyrene) to appear in France for some time, but with so much capital and talent tied up in heavy on-site prefabrication it might well prove difficult to get the system developed and on the market at an economic figure.



13



It seems to be one of the more unjust revenges of interior architecture that when a man has designed a restaurant *Grande Luxe* that affords the right *intime* atmosphere, he has designed something that can never be properly illustrated. (Philip Johnson's *Four Seasons* though immensely *luxe* is



hardly *intime* in the sense that a great restaurant needs to be.) Alexander Girard's stunning *Fonda del Sol* in the Time-Life Building, New York, has so far been failed by two of the world's great magazines, but by piecing together their separate records, it is possible to give some idea of the place. The plan, 14, shows one reason why it cannot be photographed well—the spaces are small, miscellaneous and discontinuous. *Interiors* (Feb. 1961) managed to make a fair fist of the rotisserie and the restaurant it immediately serves, 15 (which appear at 12 and 13 on the plan) and of the



16

Fonda—Birreria

entrance to the 'adobe' bar-house, as also of the courtyard outside, 16 (which is in fact the entrance) with the 'curtained' windows of the ladies' room casting suitably romantic patterns on the end wall. But the curtains are, in truth, back-etched on the glass, and this particular wall is an elaborate pun at once on purdah screens and Spanish balconies, since the ladies enjoy the heightened privacy of seeing without being seen.

But Girard is also, and famously, a collector, lover and exhibitor of hand-

17



19



20

some objects, and for this side of La Fonda, *Domus* (July, 1961) comes into its own, if only because its editor, Gio Ponti, may have detected a twin soul in Girard (whom he has long known). In *Domus*, the bar becomes a treasure house, 18, the *couvert* becomes a still-life by Morandi, the waiters' uniforms are one with the pageantry of the Palio, 17, while the great splurges of typography, that rather go by default in *Interiors*, here receive their due, whether in small, 20, or in wall-size spreads, 19.

The same issue of *Domus* also illustrates a new bar in Milan, designed by the two Casiglionis, and tucked under the end of one of Caccia-Dominiani's 'black diamond' blocks in Corso Europeo. Here, 21, the atmosphere of



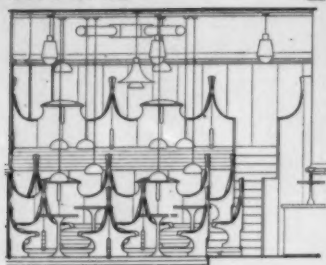
21

18



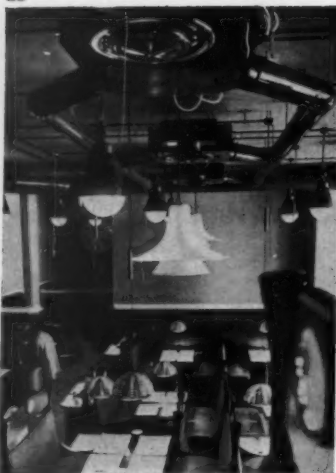
Birreria

122



'1900' has erupted in Neo-masculinity in benches and overhead services that suggest a ship interior or barber-shop of the period. However, the section, 22, with its split-level seating, makes sense—and a display of air-conditioning, 23, is still good advertising copy in Milan.

23



POWER-HOUSES



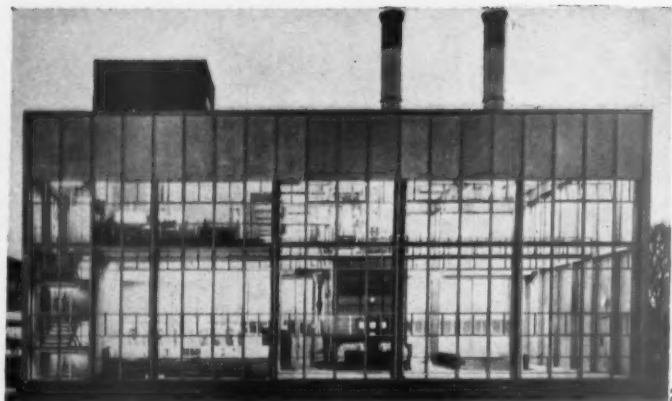
24

Not long ago, teachers at the Architectural Association were bemoaning the paucity of good examples of power-houses and boiler-houses to be found in the available literature. Had they waited a few months, *Bauen+Wohnen* would have gone some way to satisfy their wants, for its April 1961 number produced two excellent examples of more or less Miesian boiler-houses, and one that looked as if it ought to be a boiler-house. This last was the Siemens experimental atomic reactor at Gärching, 24, outside Munich, designed by Hans Maurer and the Siemens technical staff. The building immediately behind the two

chimneys is not a boiler-house at all, but a laboratory block, and the reactor itself is housed in the white building that bears the firm's name (shades of Mies's white box of tricks for that other German giant, AEG, at Barcelona!) The whole scheme is notably understated, the visitors' building, 25, having almost a college-campus air about it.

Undoubtedly a boiler-house, however, was Kündig and Weinmann's recent addition to the buildings at Zurich airport, 26. Unfortunately this is its only successful elevation, as 27 shows, but it boasts some magnificent interiors such as 28, and a characteristically cool

25

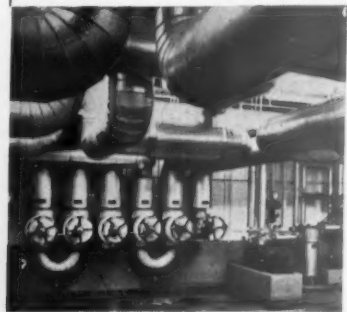


26

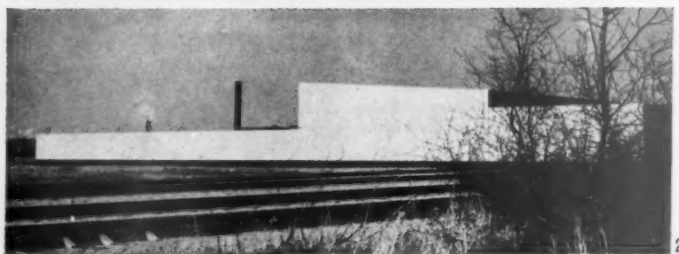
control room. By contrast the boiler-house for the Aller Press works at Halsingborg (a factory that looks as if it ought to have been designed by Arne Jacobsen, 29) seems entirely satisfactory as a piece of architecture and

and an exercise in the purest Miesian aesthetic. Although its relationship to the rest of the factory is not equally happy in all views, it seems in itself, 30, to be about as near perfect a box of works as anyone in Europe has done.

27

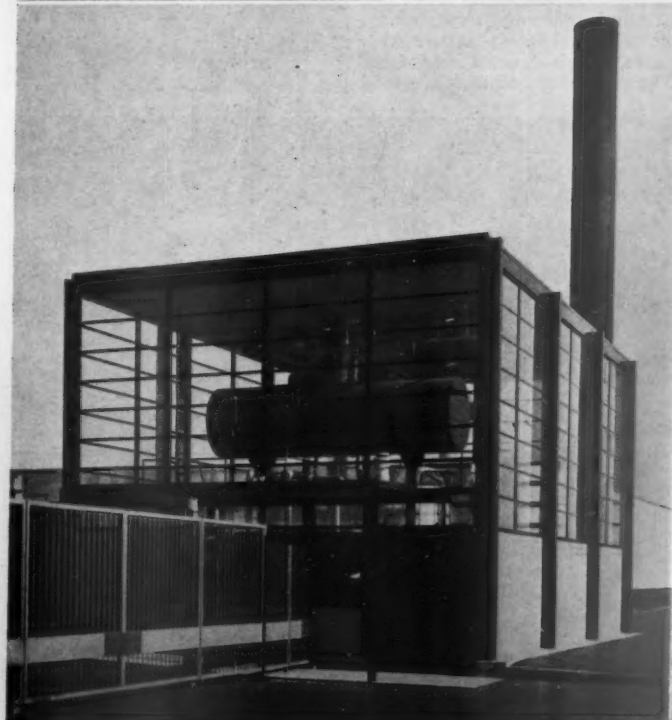


28



29

30



224

views and reviews

MARGINALIA

NASH TERRACE CONVERTED

The first of the Regent's Park terraces to be converted into flats in accordance with the promises made by the Crown Estate Commissioners, after the insistence in Parliament and elsewhere that the façades facing the park be preserved, is Cumberland Terrace. Work has been completed on the South Block, formerly consisting of six houses. These have been converted horizontally into sixteen flats of varying sizes on the ground and three upper floors.

The architects acting for the Crown Estates are Messrs. Louis de Soissons, Peacock, Hodges and Robertson, and they have shown (which many people denied when the future of the terraces was being debated) that such horizontal conversion is practicable. They have been meticulous in restoring the exterior detail, and the park façade is now probably closer to Nash's original than it has been for a hundred years. Conversion of the centre block (illustration alongside) into twenty-eight more flats is to be finished about the end of this year.

The chief economic difficulties, it has been found, are that floor areas of flats tend to be large in relation to the number of rooms and that each entrance and each pair of lifts serves comparatively few flats, and a minor difficulty has been that, owing to slight differences between one house and another, standardized details have had to be varied in the course of the work. Within the houses a new reinforced concrete structure has been built, carried on piles, so that the old walls are now, in effect, non-load-bearing.

HITCHCOCK MEDALLION 1961

The Alice Davis Hitchcock Medalion, presented annually by the Society of Architectural Historians of Great Britain for outstanding contributions to the literature of architectural history has this year been awarded to Dr. Kerry Downes of the Barber Institute of Fine Arts for his book, *Hawksmoor*, published by Zwemmer in 1959.

THE AJ's NEW VENTURE

This month the AR's sister publication, *The Architects' Journal*, embarks on what is perhaps the most formidable task ever attempted by an architectural magazine. This involves the weekly publication of a series of 52 supplements, each devoted to one elemental heading in the SFB classification.* Each file proposes a rational method for architects to follow when designing the element in question and gives both references and technical information. What the *Journal* is establishing, in fact, is a new methodology of architectural design.

*A special classification for building developed originally in Sweden and now adopted internationally.



1, the restored facade of Cumberland Terrace in Regent's Park.

PRESTRESSED STRUCTURE

Illustration no. 6 in Mr. Alan Harris's article, 'Structural Developments in Britain Today,' in the July, 1961, AR, showed a prestressed concrete beam structure at St. Helens. This, we are informed, was designed by Mr. Gerald R. Smith in association with the central engineering branch of Pilkington Brothers and Messrs. A. J. and J. D. Harris.

TORQUAY FOOTBRIDGE

The consulting engineer for the footbridge at Torquay illustrated on page 205 of the September, 1961, AR, was W. Frischmann.

OBITUARY

EDUARDO TORROJA

Eduardo Torroja, who has just died, was one of the few great engineers of this century, unfortunately unknown to many. His tremendous influence on the architectural expression and use of structure will be experienced for many years. He was born in Spain on August 27, 1899 and graduated as an engineer in 1923. After about four years working with a contractor, he became a consulting engineer on his own account in 1927. His structural ingenuity and appreciation of practical problems of construction can be clearly seen in his

early work while with a contractor. His interest and search for purity of structural form became apparent in some of his first structures after 1927, such as the stadium streetcar station for the University City of Madrid. The roof of the hospital built in 1934 on the same site was an original space structure. Torroja was not satisfied with calculation alone so verified his design by means of a model test, a technique which was to become one of his major tools for design.

His first concrete shell, a dome of 156 ft. in diameter and 3½ in. in thickness, appeared in 1933 in the design for a covered market in Algiers. The shaping of the skin to provide the required stiffness near the supports shows his fundamental understanding of shell action and his natural feeling for satisfying shape. In 1935, at the age of 36, he designed his two finest shell-roof structures, which even today have not been surpassed for their elegance and structural perfection—namely, the Madrid racecourse and the Sports Hall in Madrid. In his book, *The Structures of Eduardo Torroja*, he describes for the racecourse the various searches for correct shape which led to his final design of a hyperboloid butterfly shell-roof cantilevering out some 43 ft. and of thickness varying from 2 in. to 5½ in. near the supports. A full scale model test confirmed his intuitive design. Of its historical importance he

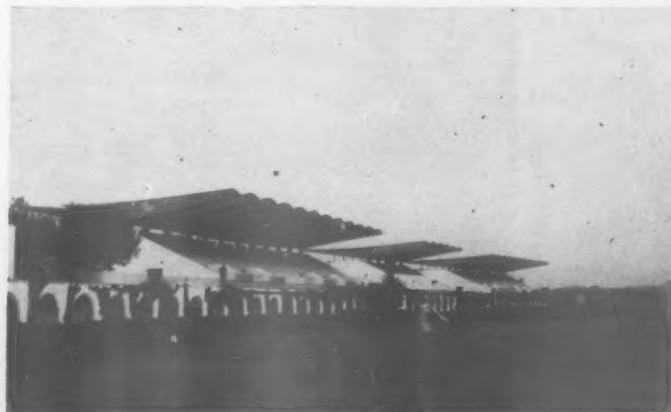
is reported to have remarked: 'For the first time in history of art, structure has acquired an independent personality so that its own intimate esthetic quality can be appreciated.'

For the Sports Hall Torroja had not only to solve a structural problem of roofing a large area 180 ft. by 107 ft., but had to satisfy the functional requirements of providing north light for the playing area and for the upper balcony. His cylindrical shell of two lobes was a masterly solution of a structural and architectural problem.

He later confirmed in his work his appreciation of the importance and value of structure in the design of a building. In all his projects he collaborated with architects and contractors, and in his writings and lectures he emphasized the great need for each member of the team to understand each other's problems. He was not a prima donna engineer and it is unfortunate he was not able very often in later life to exhibit his unique potentialities as an engineer-architect.

After the Spanish civil war Torroja founded his own research laboratories so that he could carry on his investigations of properties of structures and materials. Coupled with his command of mathematics he carried out many notable structural and civil engineering projects in concrete, steel and timber which show Torroja to have had a rare gift of being able to control and direct the forces through a structure in apparent simplicity—the hallmark of a great engineer.

In 1951 he engineered and became director of the 'Instituto Tecnico de la construccion y del cemento' which has become one of the three leading model testing laboratories in the world. Here he designed with model tests the roof for the Tachira club in Caracas which exemplifies the possibilities of shell construction. Torroja has been internationally recognized as a pioneer of shell structures who has developed analysis techniques which enable engineers to-day to explore further the variety of shell forms which he insists will appear in the next decade. As a teacher of structural logic he was supreme and his book *Philosophy of Structures* should be studied by all engineers and architects for it embodies



2, grandstand at Madrid racecourse, the most famous reinforced concrete structure by the late Eduardo Torroja, whose obituary notice appears on this page.

views and reviews

the results of his many years of patient research, practical building and humanist observation.

Frank Newby

CORRESPONDENCE

RUSSELL SQUARE

To the Editors.

SIRS,—It is high time someone spoke out against the desecration of Russell Square garden. Until recently this was the only municipalized square in Bloomsbury to have retained its original plan and character. It was the only work in London of Humphry Repton, perhaps the leading landscape gardener of late eighteenth-century England. Because of the square's immense size, the garden gave a better sense than any other of the original intention of the Bloomsbury planners—to bring the country into the heart of the town. Large areas of lawn were broken only by serpentine gravelled paths and small irregular flower beds. The effect was one of spaciousness, loneliness, freedom.

Now, however, the improvers have moved in with a vengeance. Repton's layout has been bulldozed into something resembling the garden in any minor Hessian *Kurort*. Grass has been torn up to make room for an enormous central paved space containing fountains. Around it has been imposed a rigid geometrical pattern of paths and flowerbeds. The people who used to sit or lie on the grass are being herded by park-keepers on to benches arranged in glum little paved squares, or into deckchairs arranged in tidy circles around the fountains. A large brick-built snack bar has been cunningly placed so as to obscure the best remaining view across the square. In front of it is a terrace where the detailing might have looked right in Stockholm's Hötorget (or even in an enclosed space in London, such as Shepherd Market) but which has been laid down here without any sensitivity for the essential character of the place.

Holborn recently scored a good mark for a library. The present debacle

can only be put down to municipal schizophrenia.

Yours, etc.,

P. G. HALL,
Birkbeck College, London, W.C.1.

TRINITY LIBRARY

To the Editors.

SIRS,—The note in *Marginalia* in the August AR on the Trinity College Library Competition wonders just what Franco Albini means about harmonizing with the surroundings; but, judging purely from the accompanying illustrations, Albini's quoted comments, disregarding any question of 'signs of the times,' seem very fair. The three upper floors of the design by H. J. Nicolais are divided, like the existing buildings, into clearly expressed equal bays and the relationship between floor height and bay width is the same in each case. This would certainly appear to be more conducive to a happy relationship than any consideration of cornice or string course levels, particularly as in the case of the winning design none of the elevations is in the same plane as the existing work.

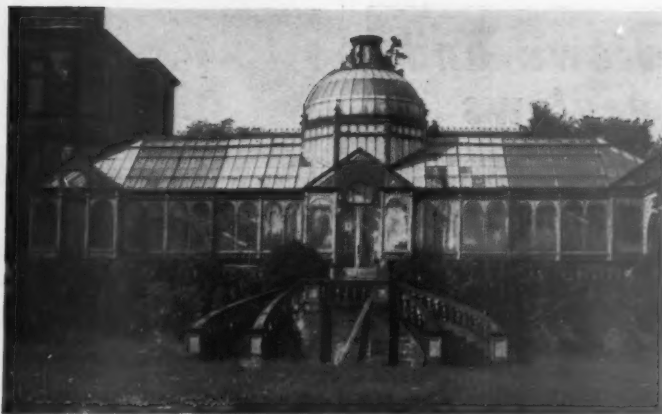
Yours, etc.,

JERRY GRANGER-TAYLOR.
Barnes, S.W.13.

INDIVIDUALITY IN HARROGATE

To the Editors.

SIRS,—The enclosed photographs show a disused conservatory at Harrogate in Yorkshire. The conservatory is part of an estate in Wetherby Road, near the middle of the town, which has recently changed hands. On requesting permission to photograph the conservatory, I was told that it was proposed to demolish it in the course of rebuilding on this comparatively central site. This would appear to me to be a very great pity. In a town of Harrogate's particular character, buildings suggestive of leisure, elegance and decorativeness once abounded, should have been preserved, but are slowly being destroyed and replaced, in many instances by comparatively characterless buildings that dilute Harrogate's individuality and make it less and less distinguishable from other towns which never had the atmosphere of a spa. At the moment in the centre of the



5, the conservatory in Harrogate referred to in the letter from Mr. Richard E. Morphet.

town a cinema constructed in the 1920's, with a white pseudo-classical façade and an abundance of odd key-pattern, leaf, and other decorative elements inside, is being dismantled to make way for a large store.

I send the photographs to you as a way of registering a protest against the destruction of this and of similar buildings.

Yours, etc.,

RICHARD E. MORPHET.
Cambridge.

BOOK REVIEWS

TRANSPARENT GOTHIC

BURGUNDIAN GOTHIC ARCHITECTURE. By Robert Branner. A. Zwemmer. 70s.

This book belongs to the series edited by Sir Anthony Blunt and Professor Wittkower in which previously Blunt's *Delorme* and Kerry Downes's *Hawkesmoor* have appeared. It is good to see that there is no rule confining it to biographies. Mr. Branner's book deals with a regional school instead, the Gothic of Burgundy in the thirteenth century. Burgundian Romanesque is familiar, and tourists look on their Michelin maps to find Vézelay and Autun, Cluny and Tournus. But Burgundian Gothic means nothing to the same tourists, and even to architects with a hankering after history. Ignorance includes Notre Dame in

Dijon, in spite of Viollet-le-Duc's brilliant analysis of this arch-Burgundian edifice.

Mr. Branner treats Burgundy as a region with a regional style, a style in many ways curiously akin to that of Normandy. He follows in all this Professor Bony, whom he fully acknowledges. Bony a few years ago brought out the character and importance of the anti-Chartres tendencies in French thirteenth-century architecture—or what Mr. Branner more Americanly calls para-Chartres. However, let it be said at once that he writes well and that his analyses of buildings are no routine and always felt.

The book consists of 100 pages of text and 100 pages of catalogue. It starts with the twelfth century, and shows that Burgundy at that time was not successful in its attempts at coming to terms with the emerging Gothic style, neither in its Cluniac nor in its Cistercian forms. Burgundian Gothic appears at last fully-fledged at Auxerre Cathedral and Notre Dame, Dijon, about 1210-20. The style is characterized by a tall triforium and a clerestory of only moderate height—the latter of course decidedly para-Chartres—by a slow rhythm and especially by that division of the walls into layers in depth which fascinated Viollet-le-Duc. Aisles have a wall-passage above the dado, naves a wall-passage inside the clerestory wall. Shafts and colonnettes are detached, wherever possible. The effect is of transparency—diaphanous, as Professor Jantzen calls it—and a slenderness of supports deceiving about the true structural members. The sources of the style are manifold, but the most important seem to me St. Remi in Reims, Soissons and also Reims Cathedral.

About 1250, as everywhere in France, Rayonnant won over original preferences, and that also Mr. Branner demonstrates well. He ends with a few buildings where the Burgundian idiom reasserts itself in the late thirteenth century. The most rewarding is the much too little visited St. Thibault-en-Auxois, depending more than Mr. Branner admits on St. Urbain at Troyes.

The book has about one hundred half-tones—not enough really to follow all Mr. Branner's arguments—and a large number of rather rough plans and also many drawings of mouldings, a rare and welcome feature.

Nikolaus Pevsner



3 and 4, geometrical flower beds and a snack bar in Russell Square—see the letter from Mr. P. G. Hall.

FEATURISM

THE AUSTRALIAN UGLINESS. By Robin Boyd. Published by F. W. Cheshire, Melbourne.

Robin Boyd's latest book is a slashing attack on the galloping visual blight of man-made Australia. It hits out at the standards of taste of the people and at the physical environment which they have shaped. The deadly accuracy with which Boyd has captured the image of visual decadence is evidence of his own involvement. For the man who makes this attack displays an underlying concern which can come only from one whose heart is in his country. The author is an Australian who can claim to have contributed to the riches of his country through his own work as a writer and practising architect.

Most people in this country who know anything about Australia are aware that, despite the great wave of post-war migration, the vast landmass of the Australian Continent is sparsely populated, and most of the population is concentrated on a seaboard strip stretching roughly from Brisbane in the north to Melbourne in the south. But to anyone fortunate enough to have visited 'Down Under' it may come as a shock to find that most Australians are townsmen and not from the bush. They live in a handful of sprawling suburban 'cities,' two of which are each larger in population and area than anything else in the British Isles outside London. Sydney and Melbourne between them account for more than a third of the total population.

The Australian ugliness of which Robin Boyd has written is man-made. It is skin deep—a veneer, epitomized in the tizzy patterned plastic veneers favoured by the shopfitter and the popular mass furniture stores. Those

who are aware that this ugliness exists would no doubt agree that it springs from an attitude of mind, if there can be such a thing as a national attitude of mind. It manifests itself in what Boyd describes as *Featurism*, 'the subordination of the essential whole and the accentuation of selected separate features.' Hence the rows of neat suburban houses with their featured columns supporting the corners of the entrance porches, the plasticized featured front doors, the black plastic silhouette cockatoos featured on the feature doors. Not that Featurism, as he defines it, is confined to Australia or to the twentieth century. Jacques Tati recognized it in his own country and conceived the brilliantly satirical *Mon Oncle* in passionate protest. But in Australia to-day Featurism happens to be more deeply rooted and widespread than anywhere else. What makes it so? If Featurism is not confined to Australia, what makes her version so deadly distinctive, so certain to be devastatingly ugly? Boyd says it is Australia's failure to come to grips with herself, and for this he blames the pioneering outlook which has been a part of the way of life from the days of the first settlement over 180 years ago. 'Featurism,' he says, 'is the most elementary form of expression historically displayed by peoples emerging from primitive functionalism.' Whatever its virtues the pioneer outlook demands an unquestioning belief in the idea that nothing must stand in the way of development and progress. Its aims are to clear the decks and reduce everything to a level on which the new can be built. The pioneering of the last century and a half, the breaking in of a raw country, has only now been superseded by a new pioneering era, one which had its beginnings not much more than a decade ago and is concerned with factories and sub-divisions

rather than with sheep and virgin bushland. So we are still relentlessly clearing away, flattening out, evening up—away go those trees (can't divert the drain), down comes the historic building (road going through there).

The cult of pioneering has stamped itself on the Australian character—a virtue in some respects but showing up pathetically in the unwillingness to accept the beautiful merely for the sake of beauty, a sort of he-man, no soft stuff outlook. There is an apparent contradiction here, for everyone who practises Featurism does so in the earnest conviction that the results of his efforts are beautiful. If Australians are so anxious to embellish their own homes, why do they put beauty so far down the scale in the broader field of civic works, townscape and planning? The answer may be that there are, in fact, two motives at work: on the one hand the rugged independence of the average Australian which drives him to do for himself (and this includes providing his own visual delights, i.e. the features), on the other hand the pioneering instinct which assures him that, in matters affecting progress, function is the prime—indeed the only—consideration.

The real tragedy of this Australian ugliness is that it is only just beginning, for Australia is still a young country. True, she has not had the turbulent history of other new world countries, the United States, for example. But she has much in common with the US, including a firm belief in the value of a high material standard of living. Motor cars, television sets, washing machines, refrigerators are every family's right. Despite the image of sun-lovers who would sooner spend the day on the beach, Australians are a hard-working people and these standards have had to be earned. Is it because their natural heritage of countryside, flora and fauna has come

to be taken for granted that Australians are so casual about them, so unconcerned with defacing them with their Featurism? Whatever the reason his countrymen should heed Robin Boyd's lonely voice of warning.

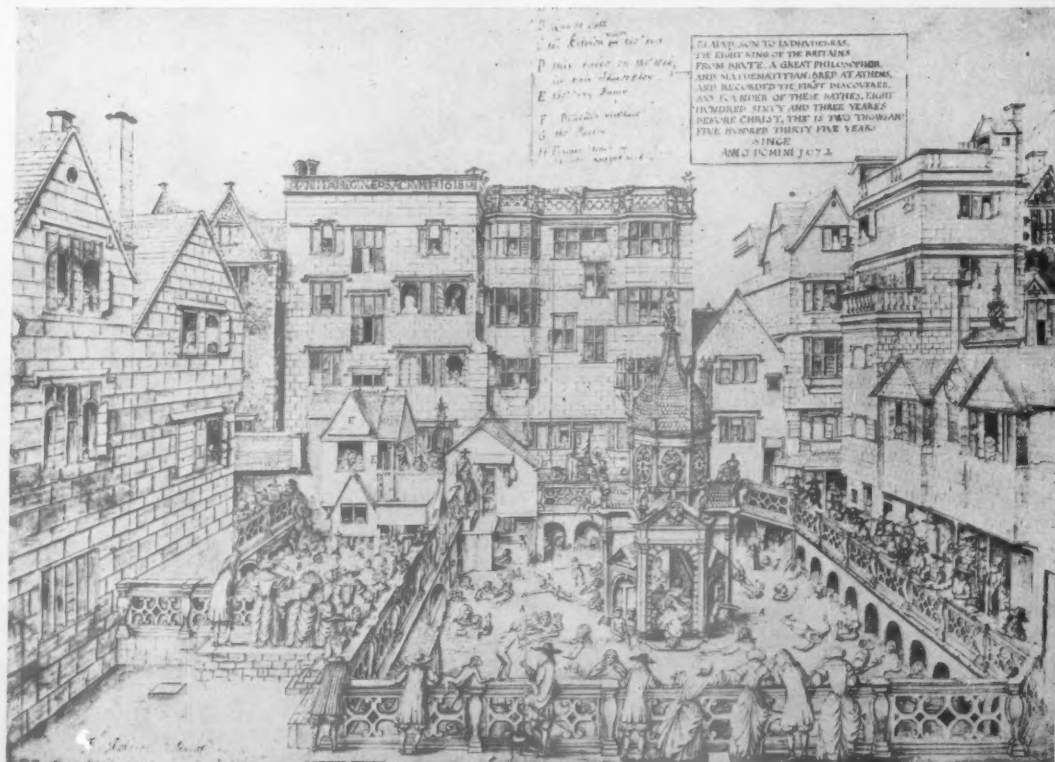
Jim Tanner

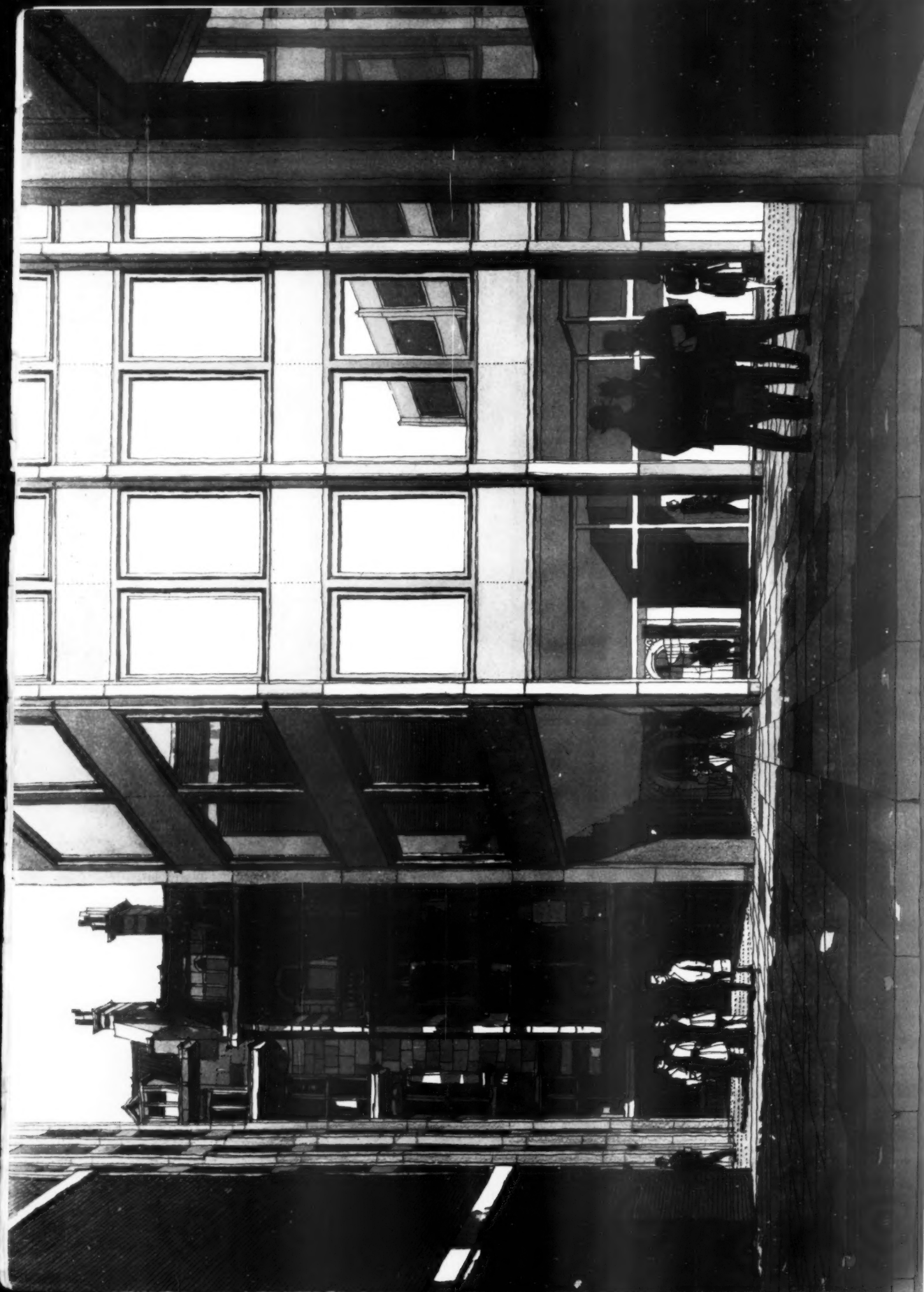
BOOKS RECEIVED

- ORNAMENTAL HOUSE PLANTS. By Lilian K. Donat. Oldbourne Press. 8s. 6d.
BRITAIN'S NEW TOWNS. By Maj.-Gen. A. C. Duff. Pall Mall Press Ltd. 10s. 6d.
GRAPHIC STATICS. By Cyril S. Benson. B. T. Batsford. 25s.
KATSURA: TRADITION & CREATION IN JAPANESE ARCHITECTURE. By Kenzo Tange. Oxford University Press. 120s.
TRANSACTIONS OF ANCIENT MONUMENTS SOCIETY. Ancient Monuments Society.
FIELD MEASUREMENTS OF SOUND INSULATION BETWEEN DWELLINGS. National Building Studies Research Paper 33 by P. H. Parkin. HMSO. 50s.
THE SOUTH BUILDS. By Edward and Elizabeth Waugh. Oxford University Press. 100s.
ESKIMO SCULPTURE. By Jorgen Meldgaard. Methuen. 15s.
A FUTURE FOR THE PAST. By Moultrie R. Kelsall, Stuart and Harris. Oliver and Boyd. Edinburgh. 21s.
IL VULTURE, IL CILENTO. By Corrado Beguinot. Edizioni Scientifiche Italiane—Napoli. Edizioni del Centro Studi per il Cilento e il Vallo di Diano. L.3,000 each vol.
INTERIOR BOOK OF RESTAURANTS. By William Wilson Atkin and Joan Adler. \$15.00.
ARCHAEOLOGY IN THE USSR. By A. L. Mongait. Pelican. 5s.
OSPEDALI E CLINICHE UNIVERSITARIE. By Corrado Beguinot. Fausto Fiorentino Editore, Naples.
VETRINE NEGOZI ITALIANI. By Bruno Munari and Emilio Bertoni. Editrice 'l'ufficio moderno'. Milan. L.6,000.
NATURAL STONE AS AN ELEMENT IN DESIGN. By Gerd Zimmerchied. Editions Herausgeber (Standard Catalogue Co. Ltd.). 80s.
THE FACE OF TORONTO. By Ralph Greenhill. Oxford University Press. 24s.
NATURAL PERSPECTIVE. By James Last. Pitman. 21s.

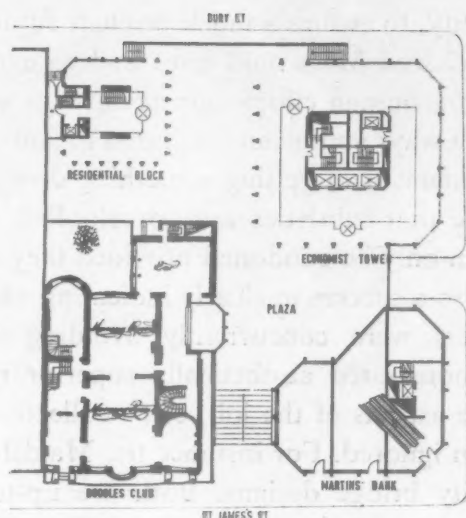


Earlier this year, the British Museum published Volume I of its catalogue of drawings either by British artists, or in some way concerned with Britain. Although the collection, for all its marvels, is not strong on architectural drawings, the plates reproduced in the catalogue throw frequent sidelights on the history of architecture and design in the period (sixteenth and seventeenth centuries). There is, for instance, an extraordinary presentation of Neo-classicism about Edward Pierce's design for a Bishop's monument, 6, in spite of the Baroque forms and a date probably in the late sixteen-eighties, while a more than documentary interest attaches to Thomas Johnson's busy sketch, 7, dated 1618, of the baths at Bath before the arbiters of elegance and the great Palladian estate-developers got to work there. (Catalogue of British Drawings, Volume I, XVI and XVII Centuries; by Edward Craft-Murray, Paul Hulton and Christopher White. Published by the Trustees of the British Museum, in two parts 110s. the set.)





The group of buildings in St. James's Street, London, designed for The Economist by Alison and Peter Smithson, will utilize the site (between Boodles Club and Ryder Street) in a way more sensitive to the character of the area and more productive of interesting townscape than most recent rebuilding schemes. Instead of building up round the perimeter of the site, the architects have opened up the interior and formed within it a raised pedestrian piazza with car-parking beneath. The piazza, shown in Gordon Cullen's drawing opposite, is reached from St. James's Street and Bury Street at the back, by short flights of steps between the buildings. There are three separate buildings—see plan alongside—the tallest, a sixteen-storey office block, at the back of the site. Their siting and open planning avoids the change in scale that the large business block often produces and retains the small semi-enclosed spaces traditional in St. James's.



Raymond Spurrier

BETTER BYPASSES

The much criticized bridge designs for the original length of M1 are not to be repeated along the rest of the route northwards. Behind this news lies welcome evidence of a much more positive Ministerial support for better looking highways. And there may soon be further proof in the design of service areas. Hitherto official support has been confined to pamphlets and bland pronouncements; now it is beginning to find its way into the end product.

A convenient comparison exists in two structures along the Cromwell Road: the lumpish, brick-faced mass-concrete and cost-controversial bridge (the antithesis of flyover) at Chiswick, and at Hammersmith the exciting vertebral construction of what promises to be a most elegant piece of engineering.* This will form a fitting flourish to an already well-architected piece of road and add considerably to the aesthetics of Hammersmith. And to be really effective that is what any work of architecture or engineering should do—not only respect existing amenities but enhance them.

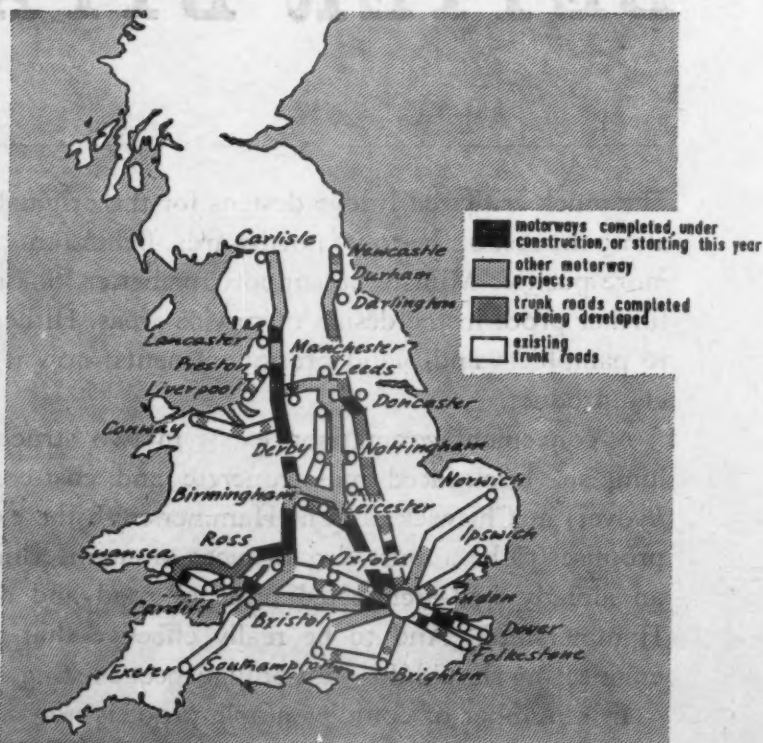
In a number of counties ample proof is now available that enough engineering skill

* See the cover of the July AR.

exists, combined with visual sensibility, to ensure a much brighter future for the motorway programme than the over-publicized M1 would have had us expect. In terms of muckshifting, time, organization, and human endeavour against the elements M1 was undoubtedly a success story in which ways and means captured the imagination whereas the visual results do not. In the excitement of getting something down in concrete and tarmac it is perhaps understandable that subtleties were overlooked. Yet the startling ineptitudes built into the scheme can only be condoned provided they are omitted from later works. In this sense M1 was also a success in clearly indicating what to avoid, even though elsewhere other roadbuilders were concurrently avoiding it. More recently opened motorways have ably demonstrated aesthetically superior results and given tangible proof that the less tangible aspects of the job, often collectively referred to as the 'amenity aspects', have not been ignored. For instance the Maidstone and Maidenhead by-passes present high quality bridge designs. Both are up-to-date motorway versions of pre-war schemes, on land bought for the purpose then, which may account for the mature look of the landscaping—also of a high quality.

Ross Spur is a piece of motorway of which the Ministry of Transport is particularly, and rightly, proud. In claiming that design contributes to much of the road's charm, the Ministry has given due credit to the three county surveyors who planned it and many of the bridges, and to the consulting engineers who designed the principal bridges. These latter had to be one-off jobs, but the remainder, in contrast with other motorways, are surprisingly various. Natural material is often used for facing: Cotswold stone in Worcestershire, local red sandstone in Herefordshire give the structures an air of belonging—not that belonging is necessarily a virtue in motorway detailing, and one could equally well argue that such a road, like a railway, is an artefact with its own style. But the result is what counts, and the success of belonging on the Ross Spur may be due to its close involvement with its landscape. It crosses the flood plains of the Wye and the Severn, runs through the Dymock State Forest whilst providing views of the Malvern range; it penetrates rock cuttings and leaps deep ravines, articulating a piece of fine and varied scenery that, because it needed no enhancement in the first place, must have presented a formidable challenge to any roadbuilder. Yet this road, the Ministry points out, was built not for the tourist but for industry. As indeed was M1, begun at about the same time.

Whether a dull landscape demands more skill from the designer than a fine one, or whether the more impressive landscape inspires the more beautiful road is open to



[continued on page 235] Map of the motorways system.



1
2



3



4

1, this dramatic airview of the Ross Spur sweeping east through the Dymock State Forest toward the Malvern Range on the horizon indicates something of the quality of the landscape and demonstrates how easily a motorway can be absorbed into such a setting when the scale of both is compatible.

Less diagrammatic, these more normal views, 2-4, are bold enough to be taken in at 60 m.p.h. or more and show the road penetrating the scenery. The forest laps at the verges without ever hemming the driver in or making him feel he is part of an alien swathe cut through the woods. In fact alignment ensures that the views are self-contained. From this point of view, too, compatibility of scale tends to reduce the apparent width of the road; modulations at the boundaries help counteract parallelism. Apart from its normal function, an overbridge like 4 can punctuate progression and introduce extra interest. In 3 it appears as a gateway to the forest. Whilst red sandstone abutment facings tie the structure to local geology, the concrete arches are clearly allied to the road; their gently curved soffits echo the distant silhouette of the Malvern Hills that at long range close a vista already concealed at short range by alignment and forest edge. This is road landscape of a high order. It depends much on the ready-made landscape but even this asset could have been outraged by insensitive siting, crude tree felling, and unsympathetic bridging.



5

5, this overbridge braced against the sides of a rock cutting and matched with it in facing material comes at a convenient point for a little minor drama. The single arch span makes the most of the new view revealed over the brow of the hill. But for most motorway situations overbridges require to be self-effacing structures so that visual interruption is scarcely noticed (unlike the M1 bridges that thump, thump, thump against the sensibility with painful monotony like the expansion joints along a bad concrete road).



6



7

6, in less dramatic country the Stamford bypass displays qualities of vertical and horizontal alignment which, despite the rigid standards of motorway curvature, which do not always allow complete integration with landform, nevertheless fit this road well with the contours.

7, 8, the Maidstone bypass flows more completely with the landscape and in these views there is also that sense of penetrating the scenery with the important feeling of participating in the surroundings. Note, too,

the way the woods play their own rhythmic counterpoint to the highway limits, and with the distant hills help to create self-contained views. (The vertical sign supports in 8 sound an unfortunate discord.)

9, this section of the Ashford bypass presents a true landscape experience in tune with motorway scale—from enclosure to openness where the road boundary is effectively concealed at the outside of the curve by variations in level.

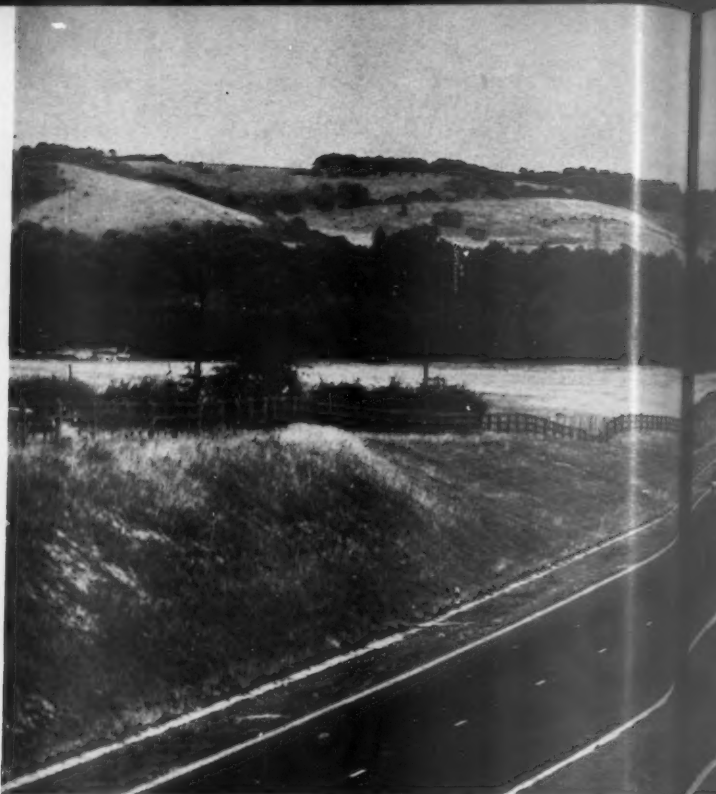


10



11

10, even minor bypasses, with admittedly lesser problems now display a respect for their setting. The three-lane Shere (Surrey) bypass sits lightly in National Trust landscape north of the village from which it is mostly invisible. 11. From the bypass itself the view of sloping parkland is unobscured visually, even enhanced by the curving alignment. Existing trees form a suitable background to the view; rural fencing and park railings are appropriate here.



8

9





These two bridges perform the same function of supporting a motorway. 12, an Owen Williams M1 design does it with the grunting for effect of a second-rate acrobat and still leaves an impression that it would be unsafe to venture beneath such a complicated structure. 13 carries the Maidenhead bypass over a minor road with effortless confidence. 13 is also an example of current trends in highway bridge design; 14-17 are variants of more economical and aesthetically improved design.



12



13

14



The family likeness shown in (14-17) stems from a more universal application of prestressed concrete construction assisted by the development of a range of standard beam sections and revised standards that allow greater working stresses. The use of approach spans instead of earth retaining abutments whilst showing a slight saving in cost, also lightens the look of the structure, causing less of an obstruction to the rhythmic sweep of the road and the view beyond, 16. This way the arch is clearly seen to spring from the surrounding land and unresolved duality ceases to be a problem. Minimal deck and support thicknesses contribute to a more elegant and less obtrusive design that can bear the constant repetition required along British motorways. Chamfered end-on view of already slender piers further reduces visual interruptions (16). Canted verticals supply an additional refinement (15, 17). Similarity in basic appearance does not preclude local variations, for instance in embankment facings which at Ingatstone (17), are hexagonal in pattern, squared at Maidenhead (16), whilst along the Maidstone bypass (15), strips of flint pebbles add a Kentish flavour and an interesting texture when alternated with plain stripes resulting in an appropriate motorway style trim. In (17) note the depth of the undercut in shadow that highlights an extremely thin leading edge. This is managed by a different technique (facing materials) elsewhere; in 18 the deck reads as only a thin white line. See also in (17) the neat change from one type of railing to another. And in Kent someone has obviously been thinking about the effect where three different fence patterns meet; in 19 they in fact all but meet.



15



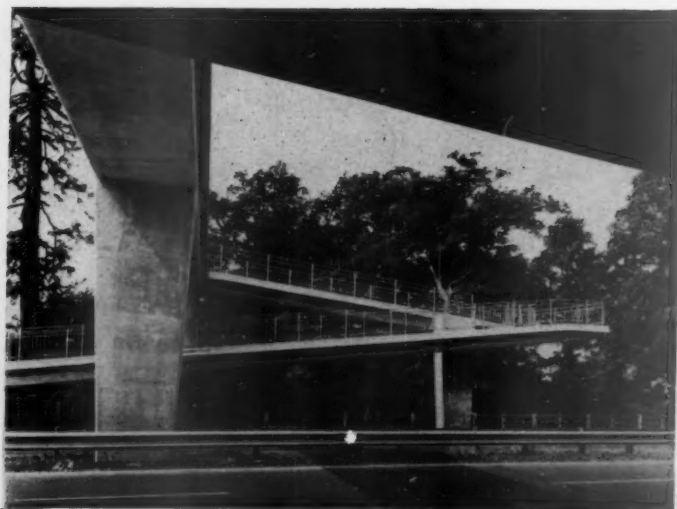
19



16



17



20

20 is a non-standard design for a ramped pedestrian bridge over the Maidenhead bypass. Big trees set the scale along this stretch of the road. The many bolts of planting which the road penetrates form a background to the view, containing the road (18). Fully grown hedges, planted pre-war at some of the highway limits, give the road a sense of maturity already, reducing scale and helping to impart that important feeling of inevitability.



18

continued from page 230

argument. Whether the use of county surveyors is preferable to one consulting engineer is not yet proven by the few examples to hand; it depends presumably on the particular county surveyor and the particular consulting engineer.

What is interesting, though, is how, from the separate efforts of different county surveyors and different consulting engineers, a distinctive pattern of motorway bridge is evolving—entirely appropriate to a modern highway and visually acceptable when repeated as often as it must be in this country. Individual examples display a strong family likeness which is attributable to the combination of a number of economic and engineering factors as well as to current aesthetic taste. Although no two bridging problems are identical, the spanning of a regular formation at even height with modern methods of construction must inevitably lead to something like a standard solution even though local variations are possible, for instance in the facing of deck edgings and the treatment of embankment slopes. So it is probably better that different designers should leave their imprint on similar solutions than that one man should strive too hard for variety by elaborating a single design.

The Minister's clearly stated policy of reserving the right to appoint a consultant for lengths of motorway that pass through more than one county need not preclude this. An overseeing consultant with a light enough touch should be able to tap local ability and at the same time preserve a sense of continuity.

In the rush to reconstruct the nation's road system there was always the danger of lacerating the landscape with too much tarmac. But much recent roadwork really merits the title 'improvement'. Precedents have been set which, with a further 700 miles of motorway still in the planning stage, to say nothing of other modernization programmes, could have far reaching effects and put this country at least on a level with those others that have established a name for high quality highways. The skill and talent that we always thought we ought to possess somewhere is beginning to show. It is therefore most important that as the shape of the new network of national routes emerges its pattern should be imprinted across the countryside by men who are sensitive to landscape and persistent in matters of detail.

VARIATIONS ON THE POINT BLOCK

The tall, square block of flats, providing at the same time a compact, agreeable form of housing and a vertical element in the landscape, was originally a Scandinavian conception; so much so that housing developments in this country that make much use of them—whether at Roehampton, Coventry or Harlow—acquire thereby something of a Swedish character. The point block is now an established architectural form all over the world, but Swedish architects have continued to create new variations on it, from the point of view of internal planning, construction and relationship to the landscape, as they have developed new housing areas. Illustrated herewith are two recent examples, both on the outskirts of Stockholm.

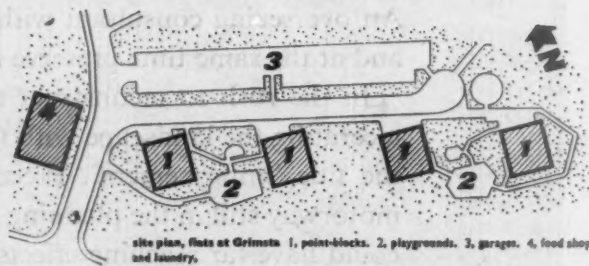
1 (facing page), close up of one of the blocks at Grimsta.

1, at Grimsta

ARCHITECT: SVERKER FEUK

A group of point-blocks at Grimsta, a residential area adjoining Vällingby, the satellite town west of Stockholm. Grimsta lies across the main highway from Vällingby, between it and the waterfront. The group, which has been designed for AB Svenska Bostäder by the company's staff architect, consists of four point-blocks, identical in plan but varying in height between seven and nine storeys, spaced at equal distances along the foreshore and backed by a double row of garages. At one end of the scheme is a low block containing a food-shop and a laundry.

The ground floor of each block is given over to storage, bicycle-sheds and a porter's office. Above there are four flats to each floor, arranged round a central staircase and lift hall, and containing living-room, two bedrooms and kitchen recessed behind a balcony. At certain levels, however, two floors form a maisonette with two living-rooms, three bedrooms and a similar kitchen. Construction is a reinforced concrete frame with insulated block walls rendered white.



site plan, flats at Grimsta 1, point-blocks. 2, playgrounds. 3, garages. 4, food shop and laundry.

2, at Kevanga

ARCHITECT: GUNNAR JACOBSON

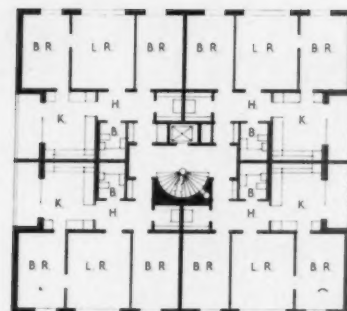
A group of three point-blocks, sited in open country north of Stockholm. They are linked at ground level by one-storey buildings containing shops and garages. Their most unusual feature is their external sheathing which is wholly of copper.

Each of the 13-storey blocks contains 50 flats, four on each typical floor, reached from a central staircase and lift hall. Two contain living-room, dining-room and three bedrooms and the other two living-room and two bedrooms. The larger flats also have a workroom. On the top floor of one of the blocks is a large restaurant and a clubroom for the use of tenants.

Construction is by the Skarne system, a semi-prefabricated system evolved by the contracting engineers, Ohlsson and Skarne, in which the central unit of each block, comprising the stair and lift well, is first erected in the form of a reinforced concrete tower and a crane positioned on the top of this tower then swings the load-bearing inner wall units into place. Floor-slabs are then cast and the non-load-bearing outer wall units hung in place. These are prefabricated panels, framed in wood, with gypsum board on the inside, insulated with mineral wool slabs and various layers of building paper. The outer sheathing is of ribbed copper sheets, five millimetres thick.



FLATS AT GRIMSTA



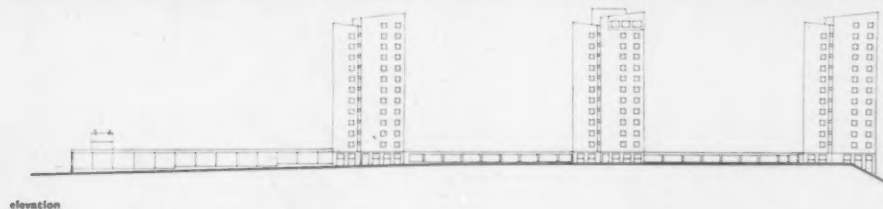
typical upper floor plan



2, distant view from the north-east, showing the two blocks at the east end of the site.



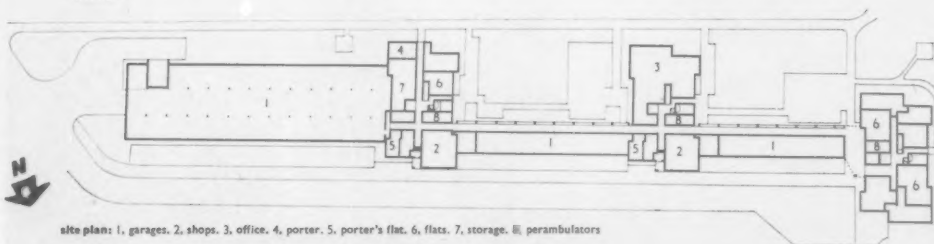
3



elevation

3, the three point blocks
at Kevanga seen from
the west.
4, aerial view from the
north-east.

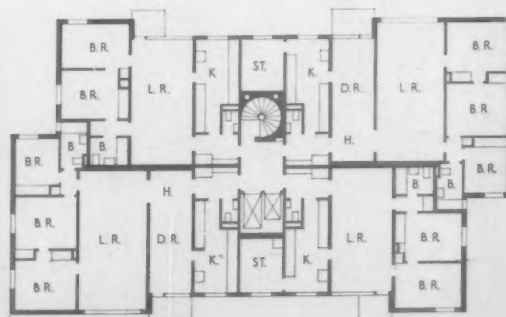
FLATS AT KEVANGA



site plan: 1, garages, 2, shops, 3, office, 4, porter, 5, porter's flat, 6, flats, 7, storage, 8, perambulators



4



typical upper floor plan, west block



LIBRARIES

1. Nutrimentum Spiritus

Nikolaus Pevsner

After some five-hundred years of development, the concept of a monastic library was triumphantly resolved into a single monumental book-lined space in the great Baroque examples in southern Germany and Austria, such as St. Florian (opposite, above) completed in 1742. But hard on its heels arose the concept of the public library, the spiritual nourishment of all. Diverse in its users, in the documents they may consult and the manner of consulting them, the public library is still in evolution towards a fitting degree of spatial diversity, exemplified by Carl Koch's Youth Library at Fitchburg, completed in 1950, below

Of the making of books there is no end, and for this reason the history of library buildings is one of increasing quantity and increasing complexity, as Dr. Pevsner recounts in his historical survey below, which is the first of two articles in this issue of libraries. The final solution to both the problem of increasing quantities of books and of complexity was the separation of reading rooms from stack rooms, and the creation of the closed library as distinct from the earlier open-access type. Since then the professional interests of librarianship have concentrated discussion on the relative administrative merits of these two types, to the exclusion of the human problem of the environment of reader and his book. Michael Brawne, in the second article (beginning on page 245) proposes that this is still a more important matter than administration and circulation.

There is no direct line of succession from such libraries as that of Ephesus of c. A.D. 115 to the Middle Ages, and moreover, books only became books instead of being rolls in the course of the second century A.D. at the earliest. For these two reasons this survey is confined to the countries of the west and the centuries after the end of Imperial Rome. Books were precious possessions in the early Middle Ages, and at least one illustration, still surprisingly Roman in realism and use of some kind of free perspective, the famous so-called Ezra in the Codex Amiatinus of the Laurenziana Library in Florence, tells us what a book cupboard was like in the sixth century. The codex is North English, the page in question is probably copied from Cassiodorus's *Novem Codices*. Cassiodorus was a contemporary of St. Benedict, and Montecassino had a substantial number of codices for which provision was probably made in a similar way.

The earliest library proper occurs in the Plan for St. Gall designed by a high cleric at Cologne about 820 to serve as an *exemplar* how the abbey of St. Gall ought to be rebuilt. Here, to the east of the north transept of the church, in the angle between this and the chancel, is a square room labelled: *infra sedes scribentium, supra bibliotheca*. So the books were to be written below and pre-

served above. But no such room has survived. Nor were large rooms really needed. Centula in the ninth century had 256 codices, Bobbio 666, and they were two of the major abbeys of Europe. The usual thing was apparently not a library room at all, but a mere book niche or cupboard in the cloister, or at most a small room in the east range of the cloister between the transept and the chapter house. At Furness Abbey in the late twelfth century two such small rooms were provided, to the left and right of the chapter house vestibule. In addition there were occasionally niches or *carrels* for monks to work in. The south range of the cloister of Gloucester Cathedral, then not a cathedral but an abbey, has twenty such carrels from the late fourteenth or early fifteenth century.

Of English cathedrals Wells in 1425, etc., built a room 106 ft. long as an upper floor to the east range of the cloister, and Salisbury in 1445 a long room in the same position. Other cathedrals did likewise, and the houses of monks and friars also felt the need now for greatly enlarged libraries. The Greyfriars in London, for example, in 1421-24, choosing the same position above the east range of the cloister, built a room 129 ft. long and 31 ft. wide. In France the need and its fulfilment was exactly identical. The library of Rouen Cathedral

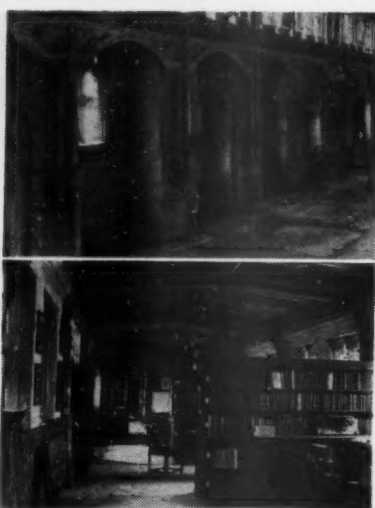
of 1424-28, remodelled in 1477-79, is 105 ft. by 25 ft. and lies along one side of the Cour des Libraires. At Noyon Cathedral in 1506 a detached building, oddly enough timber-framed, was started for housing the books. It is 72 ft. long. Similarly, of major abbeys, Hirsau in South Germany has a Late Gothic library, in this case with the prettily carved presses preserved, and Clairvaux, the celebrated Cistercian abbey, had a library above fourteen studies for monks also in one range of the cloister. The building was described in 1517 as richly carved externally, provided with windows on both long sides and furnished inside with *banctz*.

That was certainly the usual thing, and we have in England plenty of evidence of it in the oldest surviving libraries of the Oxford and Cambridge colleges—libraries such as those of Merton College, Oxford, begun in 1377 and filling one side and the major part of another of Mob Quad (that is, a total of 133 ft.), New College of the 1380's, University College, Oriel and Balliol of the fifteenth century, Jesus College, Cambridge, of about 1500 and so on. Books were arranged on low sets of shelves set at right-angles to the walls and the middle passage, their tops raised into desks towards both sides. The books were chained. The Sorbonne, a college then, not the university,

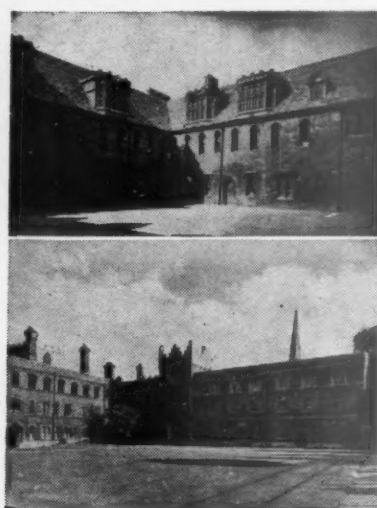
1, 'Exra,' from the Codex Amiatinus, showing sixth-century book cupboards. 2, carrels in Gloucester Cathedral cloisters. 3, fifteenth-century library in Wells Cathedral. 4, library at Merton College, Oxford, 1377. 5, Jesus College, Cambridge, c. 1500. 6, library at Corpus Christi, Oxford. 7, the library of S. Marco, Florence, 1437-41. 8, the Biblioteca Malatestiana, Cesena, 1452.



1



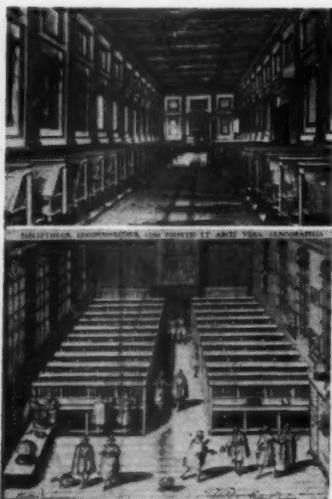
2, 3



4, 5



6



10, 11



12



13

received a free-standing library building with such desks in 1280. It does not exist any longer. College libraries of course were an innovation beyond the cathedral and monastic libraries, until then the almost exclusive repositories of books. This change is one of the seats of learning and does not concern us here. In addition, the Emperor would have a private library; kings would; the Pope had one in his palace of about 1335-40 at Avignon. It was placed in the Tour des Anges above the Pope's bedroom and had five *armarie*; i.e. cupboards.

The oblong room with windows along the long sides and presses at right angles was functionally so satisfactory that in library planning the change from the Middle Ages to the Renaissance remained a purely formal change. The first Renaissance libraries of Italy are Cosimo Medici's Marciana—that is, the library given by him (with the books left by Niccolò dei Niccoli) to the Dominicans of S. Marco and built by Michelozzo in 1437-41, and the library which Domenico Malatesta of Cesena gave to the Franciscans in 1452. Both are long oblong rooms and both use rows of columns to divide the middle passage or nave from the aisles in which the presses stand. The Marciana has a tunnel vault in the nave, groin vaults in the aisles, the Malatestiana groin vaults throughout. These and similar libraries such as the Marciana in Venice,

started in 1468 with the books left by Cardinal Bessarion, or the Vatican library of Sixtus IV (i.e. of c. 1475-77), were of a functionally new type in so far as they were public to the extent that scholars were freely allowed access. The library of Sixtus IV had 3,000 volumes. That was much compared with earlier libraries (Sorbonne 1338, 1,722 codices; Papal Library Avignon 1377, 1,677 codices; Duke Humphrey's at Oxford, about 600), but little compared with those of the sixteenth century.

For 1455 is the year of the Gutenberg bible, and by 1500 printing presses had been set up in all the principal countries. The printed book called for larger libraries. Michelangelo's Laurenziana in Florence, begun in 1524, has the low presses with desks across the side spaces. The library of St. Walburga at Zutphen in Holland, of 1561-64, is entirely a medieval library in its appearance, and that of Trinity Hall at Cambridge, also of the 1560's, does not differ from its pre-Reformation predecessors either. Nor does, for instance, the university library of Leiden as illustrated in 1610 or the library of St. John's, Cambridge, of 1628-24. In England it was due to Wren that the first change was made. His Trinity Library of 1676 places the windows not at the readers' level but sufficiently high up to obtain a more diffuse light

and to allow him to run his presses at the same height along the wall as well as across to it.

The tendency to place the presses along the walls only, functionally hardly progressive though spatially no doubt a new asset, goes back on the Continent to the sixteenth century. It was the century's principal innovation in library design and inaugurated a development of unprecedented splendour. The first of these large, aisleless vaulted rooms with tall presses along the walls is the Escorial, i.e. the monastic library of Philip II's palace-cum-monastery. It was built in 1567 and possessed about 18,000 volumes and is covered by a monumental tunnel vault. It was soon emulated by the Vatican Library of Sixtus V (1585-90) and the noble Ambrosiana in Milan of 1608-09. This was founded by Cardinal Federigo Borromeo and has another tunnel vault. Functionally it was novel and important; for it was more liberally open to the public than any before. In France the royal library remained closed, but Cardinal Mazarin's library of 1643 was regularly open one day a week, which was less than the Ambrosiana. Duke Augustus of Brunswick in 1666 made his private library accessible daily to the public.

As more and more books had to be accumulated the halls grew higher and the walls, lined with the presses, too high for the books to be reached by



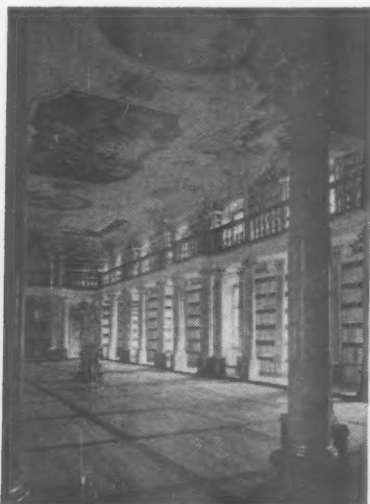
6



7



8



14



15, 16



17

9, dedication of the Vatican Library, c. 1475. 10, the Biblioteca Laurenziana, Florence, by Michelangelo, 1524. 11, university library of Leiden, 1610. 12, Vatican Library of Sixtus V, 1585-90. 13, Hawksmoor's Codrington Library, All Souls College, Oxford, c. 1717. 14, Ottoburen, S. Germany, c. 1720. 15, Melk Library, Austria, 1732. 16, 17, the Vienna Hofbibliothek.

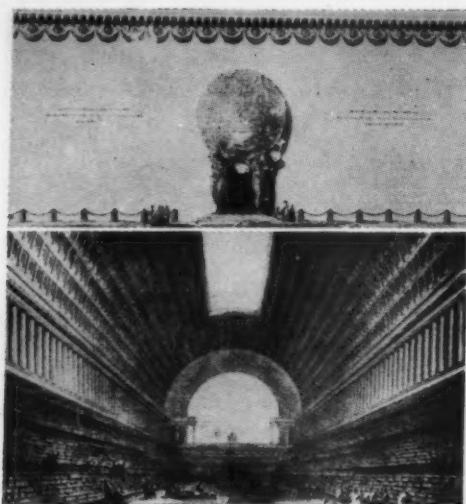
library ladders. So balconies or galleries were introduced. When exactly that took place cannot be said. At Oxford the first with a balcony (and the last with chains) was St. Edmund Hall of the 1680's. In Rome the Casanatense by Carlo Fontana, founded in 1698, has a balcony, and then the Angelina and the Vallicelliana. In France Cardinal Mazarin's library, which has already been mentioned, was installed after 1661 at the Collège des Quatre Nations, founded by him. There was no balcony at first, but more book space and a balcony were added in 1739. The grandest English early eighteenth-century library also has a balcony, Hawksmoor's Codrington Library at All Souls of c. 1717, fitted up internally only after he had died in 1736 and completed about 1750. It is in all its elements essentially identical with the most splendid of the monastic libraries of south Germany and Austria and indeed the younger Fischer von Erlach's Imperial Library in Vienna of 1723-26, but in style it is utterly different. The English library is rectangular as a whole and in all its elements, where the German Baroque replaces all right angles by surging and drooping curves. Also the English library is classical in the pilasters, the metope frieze, the balustrade, the cornice, the Venetian end-windows, where the German Baroque uses curly brackets, tapering pilasters, entabla-

tures jutting or undulating forward and backward and ceiling paintings to create the illusion of space interminably continued upward. There are more outstanding examples in southern Germany and Austria than can here be mentioned. The former country preferred on the whole to place the balcony on columns—see for example Ottoburen of the 1720's—the latter on brackets (Melk, completed 1732, St. Florian completed 1742).

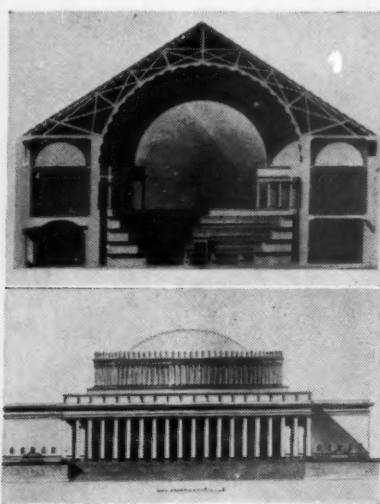
The Vienna Hofbibliothek, when the new building was decided upon, must have had about 100,000 volumes. The building was to form part of a comprehensive scheme of remodelling the Imperial Palace. In the later eighteenth century, thanks to the conviction of enlightened monarchs that intellectual resources—as indeed the resources of aesthetic enjoyment—ought to be made freely accessible to the people, the library became an independent building, just as did the museum and the theatre. The stages by which museums and theatres cut themselves off from the court are fascinating to follow but cannot be followed here. However, in 1769-76, to give just one example, Landgrave Frederick II of Hesse-Cassel built in the newly-laid-out principal square of Cassel the Museum Fridericianum as a museum below, a library above. In 1774-78 Frederick the Great built a library for Berlin, at right angles to Unter

den Linden and on a plan and an elevation adapted from a design of Fischer von Erlach's for the Hofburg. It was from the start intended as a public library and it carries the inscription *Nutrimendum spiritus*, a telling testimony to the new, universally educational function of libraries in general.

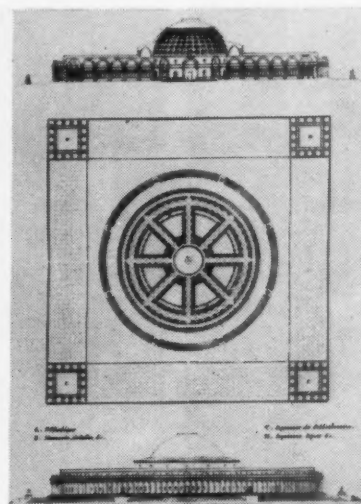
Vast libraries (like vast museums) in their monumentality paying homage to the new ideals of education, became one of the favourite themes of the progressive architects of France. The most influential, though never published, was evidently Boullée's idea for making the royal library a Bibliothèque Nationale which seems to have been worked out about 1785 and certainly before 1788. The exterior is as ruthlessly cubical and as unprecedented in its iconography and details as one expects Boullée to be; the interior however is clearly nothing new—except of course for the scale. Another plan of Boullée's foresees the same three recessed upper tiers but placed in an amphitheatrical room. In 1787 the Academy, for its Grand Prix, asked for a Bibliothèque Publique and premiated J. B. L. F. Lefebvre with a scheme influenced by Boullée and culminating in a circular reading room. As in all other fields, the immense projects of Boullée, of Ledoux and of the Grand Prix were codified by Durand in his *Précis* of 1809; i.e. the summary of his lectures given at the Ecole-



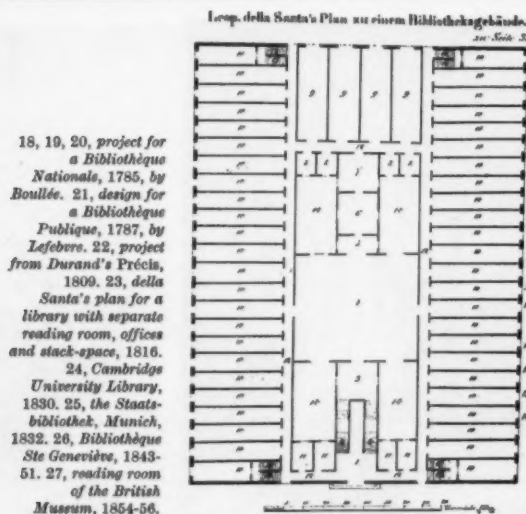
18, 19



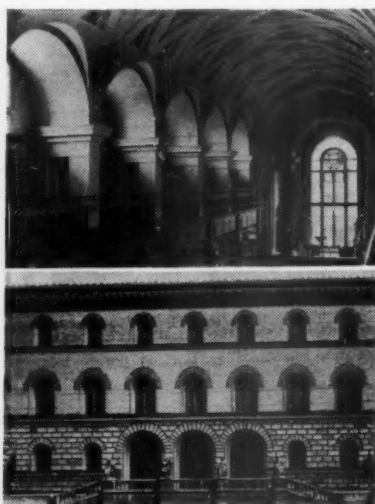
20, 21



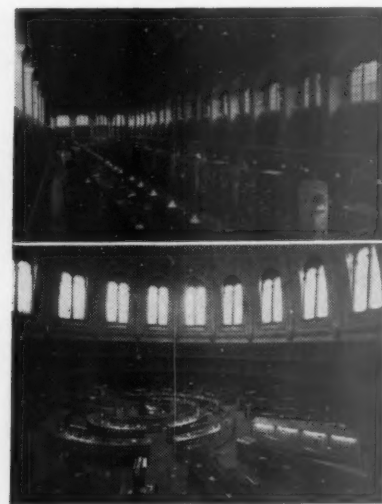
22



23



24, 25



26, 27

Polytechnique. The *Précis* was widely known and helped to spread this megalomaniac style.

However, while for cathedrals, academies, or indeed Halls of the Virtues, the scale of Ledoux and Boullée was such that megalomaniac is the only term to characterize them, in the case of libraries there was an excuse for this scale. Libraries by 1800 had grown very big indeed. Göttingen University had started in 1737 with 12,000 volumes and possessed 110,000 by 1786. The Bodleian in 1817 had about 150,000, the British Museum in the 1830's about a quarter of a million. To house them on the Escorial-Ambrosiana principle—which is what Boullée was trying to do—was no longer possible. A new principle had to be worked out. It was the task of the first half of the nineteenth century to do so. The principle was that of separating reading room, offices and stack-space. It was first presented by Leopoldo della Santa in 1816 in his *Della costruzione e del regolamento di una Pubblica Universale Biblioteca*.

Della Santa's plan was reproduced by Christian Molbech in a Danish book *Om offentlige Biblioteker* in 1829, and this was translated into German in 1838.* But already in 1817 a little-known Frank-

* The separation of reading-room and stack-space had been carried out once a century before, but on a small scale, in the library of the Foundling Hospital at Hable founded by A. H. Francke, the German philanthropist and educationist.

furt librarian Beyerbach had not only endorsed della Santa's idea but added the necessity of stack rooms being low—he suggested 7 ft. 9 in.—and the partition walls being simply double stacks. Much special research would be needed to determine in the case of every library how the separation of reading from stack-space took place. As a rule it was no doubt a gradual change. In new libraries also it could be done discreetly or prominently. Mr. Eugene Dodd, who is working on C. R. Cockerell, referred me to the manuscript comments made by Cockerell in submitting his designs for the new Cambridge University Library in 1828. The reading room is a noble example of the Escorial-Ambrosiana type, but Cockerell writes: 'Apart from the bookcases in the Libraries, additional shelving might be provided in subsidiary rooms.' The Bavarian State Library was designed in 1832 by Friedrich Gärtner and completed in 1843. Externally it is in the *Rundbogenstil*; i.e. a rather severe Quattrocento palazzo. Internally it has two courtyards, a monumental staircase running up in the range between them from the entrance hall below to the reading room above, and, apart from a representational hall and the librarian's offices, nearly all the upper floor is stack-space.

In 1835 Benjamin Delessert suggested for the

Bibliothèque Nationale a circular reading-room with stacking-space round it. In Labrouste's famous Bibliothèque Ste. Geneviève of 1843-51, the ground floor is all shelving, though still with wide distances between high stacks, and the first floor is all reading-room. The innovation which has made Labrouste's library famous is of course the extensive use of iron and the frank exposure of it in the reading-room. In April 1845 Count de Laborde in Paris in the eighth of his letters *De l'Organisation des Bibliothèques de Paris* illustrated a design for a library of 800,000 volumes, a building with four inner courts, a cruciform reading-room and very generous stacking provision. Ten years later Panizzi's reorganization of the British Museum was under way (1854-56) with a spacious circular reading room with 364 seats and stacking all of iron, with floors only 8 ft. high and stacks only at that same distance.

With that modern conditions are reached. For well over fifty years nothing essential changed except size, and when it comes to the one change which distinguishes to-day's library planning from Panizzi's or that of the Bibliothèque Nationale, as remodelled by Labrouste in 1854, etc., that is the change from the monumental to the unmonumental reading room, that belongs to Mr. Brawnne's rather than to my contribution.

LIBRARIES

2. Communicating with Individuals

Michael Brawne

In terms of purpose, the library is, like the museum or art-gallery, shelter for a medium of communication. It is also, in terms of the organization of areas, greatly akin to the supermarket; like the self-service store its problems are movement, supervision, storage, enticement. Yet though both these aspects need scrupulous analysis and more than competent solution, neither is in the last resort the key to the architectural idea.

The library, whatever its size or speciality, acts as an information warehouse—information being in this context anything from a nursery-rhyme to a recording of a heartbeat. This is, of course, only part of its task. The other and more difficult part consists in making this information easily available and, in all but the smallest libraries, providing an environment in which it can be readily assimilated. It is thus as much work shop as warehouse. This communication takes place between book, recording, microfilm and an individual; it is a private, static act.

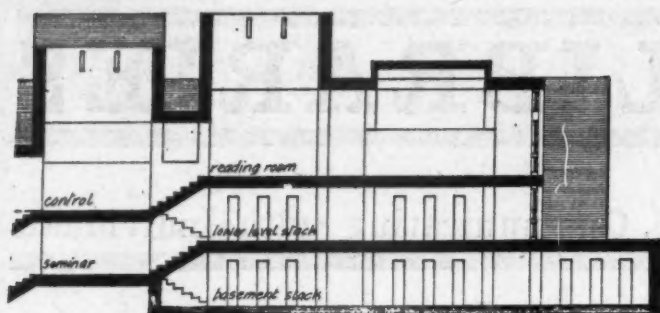
Communication in the theatre or the cinema or even on the television screen is, in some measure, a corporate activity. It is obviously so in the theatre; it is so to a lesser degree in the cinema, which however in terms of size presupposes group viewing and on the television screen which does so in terms of simultaneity. Communication in a museum is dependent on the movement of the observer and the resulting juxtaposition of objects in sequence. The library is the opposite of both these conditions: information is communicated by way of a small handleable object to a seated or standing individual at no predetermined time. It is this relationship which provides the clue to what, in Kahn's phrase, 'the building wants to be.'

This relationship does not differ in any of its essentials of course from taking a book off a shelf in one's own room and sitting down to read. It is only that by being done publicly, by being more deliberate, the action becomes in some way more meaningful, is in some measure heightened. The degree to which this should find architectural expression, however, has been sadly miscalculated in a large number of libraries. It stems probably from our medieval and renaissance legacy of considering the written document and the literate person as rarities. It is surely no coincidence that the most pretentious building on the Cambridge skyline is the tower of the New Library or that in the other Cambridge the most monumental flight of steps in Harvard Yard leads up to the Widener Library. When pretention is absent it is often replaced, thanks to Andrew Carnegie's munificent efforts, with worthy, hard Victorian patronage towards those seeking self-improvement. In both cases the idea of pleasure is totally absent, would even perhaps be considered vulgar.

The miscalculation is one of both extent and emphasis, for the aspect which in fact needs elaboration is the crucial relation of book and reader. This elaboration is, moreover, not a matter of whim but of functional necessity. The library differs from one's own room in being shared with others, there is thus a need for reducing disturbance, for in some way isolating each reader.

There are obviously a very large number of ways of achieving this result. Historically, it was achieved, as Dr. Pevsner's article shows, by suitably arranging the distribution of books and readers, a situation

LIBRARIES



Partial plan and section from Sir Leslie Martin and C. A. St. John Wilson's first Oxford library scheme. Small reading zones within the main space are defined by the clusters of four columns and the skylights above.

which persisted for 400 years until a clear-cut division between stack- and reading-room was established.

From then on, isolation was a matter of building volume. This was partly achieved by the psychologically imposed hush of the monumental, and partly by generous space standards, mostly in the vertical dimension. Neither monumentality nor volume is, however, any longer possible: the first is out-dated emotionally, the second economically. The individualization of the reader must therefore take other forms.

Two obvious possibilities are the break up of space and the design of aedicular furniture. The simplest space division is created by using bookshelves as screens. This presupposes that no clear cut division has been made between reading and book selection. A number of libraries are of this type, 10, 12. A further method is to find a spatial organization of structure and use which also becomes partial enclosure and, possibly, a repetitive unit. The first design for the Library Group for Oxford University by Leslie Martin and Colin Wilson provided such an arrangement and created a recognizable enclave by means of a change of level, a column cluster and a skylight. This design was regrettably abandoned because of the possible difficulties of supervision, in this instance surely more imagined than real.

Enclaves of this sort can also be created with great advantage by breaking up the outer walls of the library. This increases the perimeter of the building and thus makes it possible to place a large number of readers next to windows. Once the shattering of the boundary is accepted, there is obviously a great

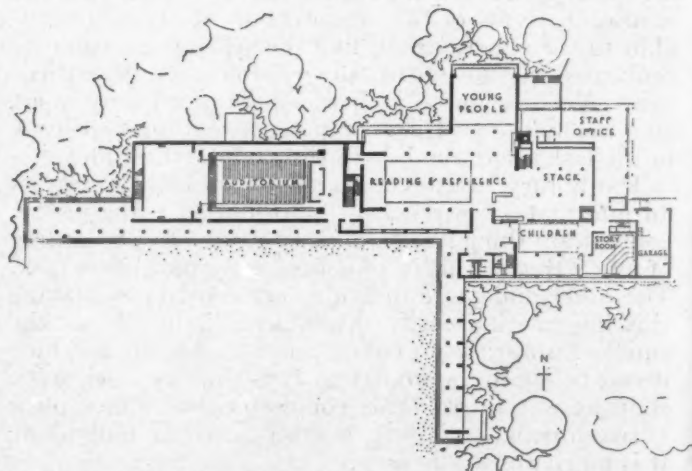
variety of possible forms varying from slight folds punctuating seating to an almost complete pavilion-like detachment of spaces.

In reading areas where trolley movement is not important, a similar break-up can take place vertically. Two or three steps are often sufficient to define a sunk seating area, a raised study platform or to demarcate different groups of readers. A high order of complexity is thus possible, and probably desirable, both on plan and section.

The design of furniture is crucial to the success of any library. It can, more than anything else, emphasize or destroy that individual, static relationship between book and reader, yet surprisingly little work has so far been done on library furniture.

EKZ, a German organization for the bulk purchase of equipment and books for public libraries—a kind of library CLASP—has commissioned a number of designs for shelving, catalogue-tables and picture-book stands; Garber and Burquist developed some special tables for the Cincinnati Public Library and Franco Albini and David Rock have designed furniture for bookshops which would, however, be equally suitable for libraries. David Rock's revolving bookstand, like a Victorian picture postcard display, is for example both witty and space-saving and would bring worthwhile variety to a great deal of library shelving. The space it saves can well be used for the face-display of books which is, both in the library and bookshop, an extremely useful device for attracting attention.

What appears to be missing however is a design for library seating and workplaces which acknowledges the specific conditions of the library beyond robust-



Grace Allen Dow Memorial Library (see also 1, 2, opposite), a library planned as a community building with adequate provision for the differing library needs of that community.

ness and anthropometric correctness. The conditions of this year's Trinity College, Dublin, library competition, for example, pointed out that even in a university library at least 20 per cent of the students in the reading room need not sit at tables yet there does not appear to be a low chair with a book support, an arm-rest designed for taking notes, and possibly a space elsewhere on the chair for keeping one or two other books; a variation in fact of the lecture-room chair

[continued on page 251]



2



4



5



1

The Grace A. Dow Memorial Library in Midland, Michigan, designed by Alden B. Dow and opened in 1955 is, like Fitchburg (3), conceived as a community building. It is flanked by a parking area for 100 cars, 1, and houses a reading and reference room, special rooms for young people and children, a stepped story telling room, an exhibition hall, conference rooms and an auditorium seating 200. 2, the general reading room has alcoves off it both at ground floor level and on the balcony which are defined by brick piers and at the ends by returning walls.



3

3, the pivot of the Youth Library at Fitchburg (seen also on page 340) is a central court with a large fireplace. The porcelain enamelled decorations are by Gyorgy and Juliet Kepes. All the rooms of the building open on to this inner garden which becomes an additional reading room and meeting place.

4, 5, the administration building of the Schlumberger company at Ridgefield, Connecticut, by Philip Johnson, has the library as its central core. Conveniently situated as the information centre at the heart of the organization, it achieves the equivalent of spatial variety by a diversity of aspects—solid walls of books, views into the corridors (right, in 5) or into the garden court which is also just visible at the left-hand end of the block in 4.



6



7

The new library in the Berlin Hansaviertel by Werner Düttmann demonstrates two important library planning principles: location and diversity of space. The small building on the right in 7 is an underground station and the planted courtyard with sculpture and seats, 6, again creates a visual outlet and a multi-purpose space.

Alvar Aalto's town group at Saynatsalo includes a small library, 9, a long room

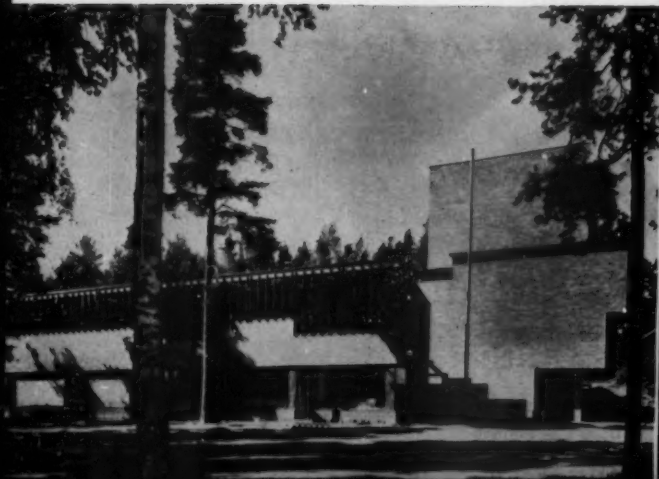
lit by deep windows down one side, 8. The library gains greatly both socially and visually by being part of a larger complex.

10, the Holborn Library, designed by the Borough Architect's Department resolves the problem of the urban site by arranging rooms vertically according to function, with the reading areas well above street level, as this view shows.

8

9

10



11
12



13



14



11-14, the library in Flensburg for the Danish minority of South Schleswig designed by Tyge Holm and Flemming Grut has a narrow street frontage, 13, but great depth up a sloping site to a garden at the rear. It thus makes contact with the life of the street yet provides the necessary quiet. 11, the newspaper reading room; 12, a corner of the main reading room; 14, the librarian's office.

15



15, 16, Powell and Moya's Children's Library at Pimlico, London, also opens its reading room on to an outdoor space. (see also AR, Sept. 1960)

16





17



18



19

David Rock's design for a bookshop needs hardly an amendment to become a branch library; 17, the enticement of the lit street front; 18, the close grouping of books and seating and 19, the variety of display forms are all equally appropriate to a public building yet few have been given this degree of consideration.

20, the seating around a fireplace at the end of Jorgen Bo and Vilhelm Wohlert's Louisiana Museum outside Copenhagen, subtly divided by the insertion of small tables, is a model for any library building.

21, Franco Albini's bookshop in the Galleria in Milan exploits enforced density to create a rich visual pattern that few libraries are able to match.

20

21



continued from page 246]

which has a single enlarged armrest. The lesson of the Victorian club with its deep upholstered chair and movable adjustable bookrest, as in Charles Barry's Reform Club, for example, has not yet been applied. Nor does one often find a table which includes a shelf for books in use and which with this simple device provides some screening and at the same time relieves the often overcrowded table-top.

What is equally often lacking is the successful anchoring of all these loose objects in a relatively large space, of providing some order without regimentation. The first need is for a correct scale relationship between space and furniture. As the scale of everyday furniture is only variable within certain small limits, this may again argue for the visual break-up of most library spaces.

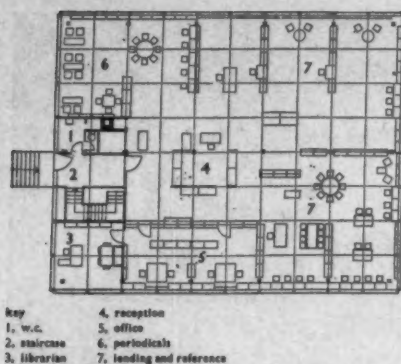
The carrel is of course the extreme form of the personal niche. This table and seat lost among the stacks or closed cubicle off some larger space stems, like so much library organization, from monastic precedent. The carrel is not, however, feasible as a general solution. In some cases it may be undesirable because it is difficult to supervise, in others it is too remote from catalogues, other books of reference or the help of the



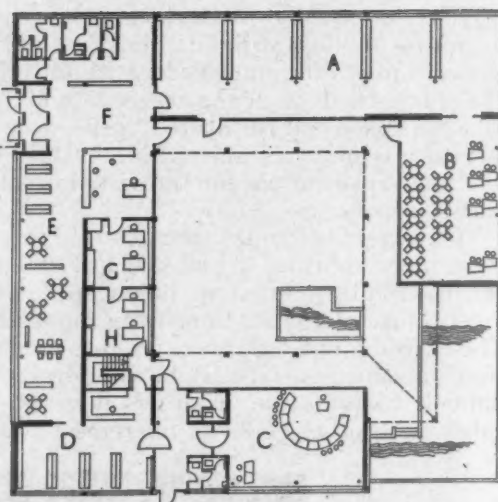
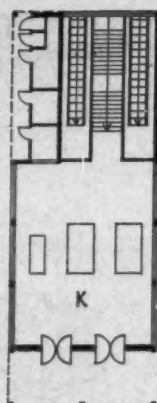
Library furniture: above left, unit tables from Sheffield University Library; top, EKZ standard shelving in the Hansaviertel Library, Berlin; above, purpose-designed reading desk, Cincinnati Public Library, by Garber and Burquist; left, a small study table with fixed shelf, New York Public Library, Donnell Building Branch.

librarian. Its extreme isolation may occasionally also be unwanted; there is after all for some people a useful psychological pressure towards work which comes from being near others doing the same thing. Library spaces ought thus to be sufficiently different in each library to cope with varying desires for separation.

LIBRARIES



Contrast of simplicity and complexity: above, the Horsholm Public Library, a small branch serving all age-groups within a single room; 9, Hansaviertel Library (see 6, 7) larger and more complex with its pools, inward and outward views, and covered approach from the station, K.



Private study is not the only library activity which benefits from a feeling of seeming isolation. It appears as appropriate to book choosing as to book reading. Both suggest therefore some break-up of space into areas which convey a feeling of individuality, of being undisturbed. Nor are these two activities in many cases as separate as library planning would often indicate from the clear-cut division between shelving and seating. It is interesting that it is a bookshop, David Rock's new Bumpus's in London, which has produced one of the most intimate combinations of shelving and seats, 18. It brilliantly suggests that book choosing is after all a civilized pursuit. A similarly successful combination of space, seating and shelving is the sunk reading enclosure at the end of the Louisiana Museum, Copenhagen, 20. This is probably one of the most sensitive reading places in any public building and occurs, paradoxically, not in a library but a picture gallery.

This kind of free grouping has so far been taken furthest in what the Scandinavians describe as family libraries; small public libraries catering for children, teen-agers and adults. The public library at Horsholm, just north of Copenhagen, provides this kind of arrangement within one room 70 ft. by 55 ft. Only two offices are behind solid partitions; the remainder of the space is subdivided by shelving and various kinds of seating, yet can still be supervised from a single reception-desk near the entrance. The room is probably at the upper size limit in which such a relatively open grouping can be tried successfully. Beyond this a more complex fragmentation may be needed.

The Hansaviertel Library in Berlin, built as part of the Interbau Exhibition, achieves this sort of desirable complexity and relates it to both public and private open spaces. It pivots about a courtyard which becomes a visual centre for the library and is in fine

weather a sitting area. Parts of this space are shaded by overhangs, and furniture can be moved out on to the paved terraces. Carl Koch's Youth Library at Fitchburg, Mass., works equally successfully on the same principle. In each case the outdoor space is large enough, so that it is not only possible to withdraw into it for isolation, but also to join others for discussion. Both aspects are important, yet neither is much catered for in the standard library. Serried rows of tables do not give the variety which is functionally necessary; no library is a reading factory. The administrative convenience of supervision must never become the prime design motive.

The Hansaviertel Library also shows the very great importance of siting not only in terms of the view as one looks up from the page, but also in terms of the urban plan. The library, like the supermarket, depends a good deal on accessibility, and both public and university libraries ought to be sited on the normal routes of movement. The Hansaviertel Library is adjacent to a station of the Berlin underground and is part of a small urban centre. University libraries ought to be placed so that they are accessible from both the academic and residential areas (where these exist), for they are used during the day, often between classes, and again in the evening.

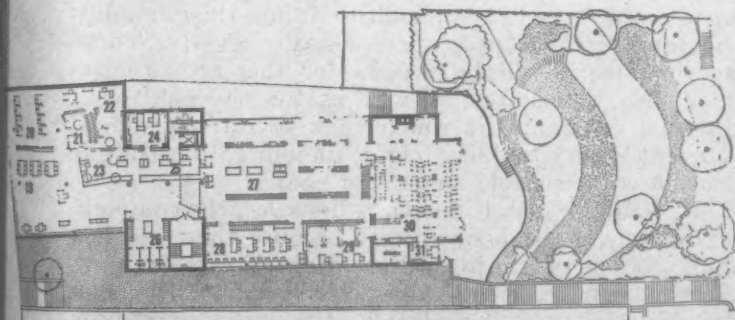
The public library deserves a location which puts it in the midst of pedestrian flow, which makes it as easily reached as a Woolworth. Its placing must be such as not only to cater for the confirmed user but to attract and hold the reluctant reader. Such a situation is not incompatible with the acknowledged need for quiet and the possibility of future expansion. Both these conditions may well be satisfied by working in depth and on the section. Thus Powell and Moya's children's library at Pimlico, 15, 16, uses two bays in a row of shops which form the ground floor of a seven-

storey building. The small library, however, opens on to an enclosed garden to the south which corresponds to the service area of the shops on either side. A chair-store, staff room and lavatories and the entrance face the street. The same principle can be carried out vertically, either simply as floors within a building such as in the newly completed libraries in Holborn, London, 10, and Flensburg, North Germany, 11-14, or, with advantage, as a series of levels related to outdoor spaces of the kind seen in the recent proposal for the development of the South Bank adjacent to the Royal Festival Hall. Nor would it, for example, be difficult to transpose the brilliant library group for Oxford University so that the flight of steps leading up to the library entrances rose from a shopping precinct.

Such close integration with other activities is essential for most libraries, public as well as university. Specialized libraries achieve it naturally by being part of learned institutions, museums and the like. It becomes doubly important to very small facilities such as branch or village libraries since their gravitational pull is in any case rather weak. The community library at Säynätsalo, for example, gains enormously by being part of Aalto's complex of town-hall and shops, 8, 9.

The shopping centre is in many ways the natural location for the adult branch library. To neglect it because of high land values is both an economic and a social mistake. The cost of a library service is largely determined by annual running charges—staff, book purchases, lighting, heating, cleaning—and very little by capital expenditure. American figures give annual operating costs at from a quarter to half the cost of the building. These yearly outgoings do not vary a great deal with the amount of library use. It is clear, therefore, that the greater the use, the less the cost per book borrowed. An unfrequented library is in fact a poor investment.

Branch libraries are also rather more than book-lending institutions. They become the gathering place of the old, of those living in cramped or unheated rooms. This additional function ought to be accepted as desirable and catered for in spaces which can at other times become a lecture room, a meeting hall, a cinema. Local libraries are, in northern climates, the only covered social gathering places with a permanent functional justification. They ought thus, as Werner Mevissen has suggested, each have an enclosed 'market place.'



Library at Flensburg (see also 11-14), the main reading and stack areas on the first floor—a narrow sloping site makes functional stratification by floors both necessary and possible.

The children's library ought also to allow for this element of foregathering and escape from an overcrowded home. There ought to be spaces for story-telling, for school-children doing homework away from television and near books of reference, for children losing themselves in a private world of make-believe. There is a splendid architectural hint of what this could be in the reading-nooks and story-telling spaces of Aldo van Eyck's children's home in Amsterdam.



Reading corner, children's home, Amsterdam, by Aldo van Eyck: though not strictly a library, this building's humane approach to children's reading and story-telling needs can teach many library architects a lesson.

Sentimentality and Disneyism are the principal bugbears of the library's left-over room labelled children's corner. What is needed is generous space and a preservation of the wonder of another reality in the tough-minded manner that children understand and appreciate.

None of these group activities in any way invalidates the characteristic function of the library of communicating to individuals. This has been its task whether it was an Alexandrian collection of scrolls or a Victorian philanthropic institution. What has, however, changed significantly is the amount of information available and the number of people interested in it. In 1950 American public libraries, for instance, issued 384,606,000 volumes despite the fact that in the same year something like 200,000,000 copies of 25-cent pocket books alone were sold. Last year the public libraries in this country lent the even more staggering total of 440,095,000 books. The annual rate of publication throughout the world is now close to 323,000 titles. Yet even the greatest libraries store only a fraction of this output. Harvard, by a considerable margin the most sizeable university library, has 6,800,000 books and pamphlets. University College, for purposes of comparison, has 675,000; the Science Museum has 455,000 and the Victoria and Albert has 300,000. The national libraries, of course, equal or surpass these, and have over many years amassed enormous collections: the British Museum has over 6,000,000 volumes, the Library of Congress in Wash-

LIBRARIES

Statistics

BOOKS

In public libraries the suggested allowance is $1\frac{1}{2}$ to 3 books per head of population. Minimum useful size of a library is 3,000 adult's books and 500 to 1,000 children's books.

With aisles at 4 ft. 6 in. centres and 7 shelves within a 7 ft. 6 in. height the average storage capacity is as follows:

Books per square foot of book stack space	15
Books per cubic foot of book stack space	2
Books per foot run of wall space	50
Books per foot run of double faced shelving	100

If aisles are at 3 ft. 4 in. centres and books are shelved by size, the number per square foot can be increased to 30.

Books in great demand on open access shelves should have aisle centres of 5 ft. or more.

Shelving Capacity

Type of book	Books per foot of shelving	Books per linear foot of single faced shelving	Recommended width of shelves in inches
Fiction	8	56	8
General non-fiction	7	49	8
Technical and scientific	6	42	10
Medical	5	35	10
Law	4	28	8
Bound periodicals	5	35	10-12
General average	7	50	

At the opening of the library only half the shelf area should be in use.

READERS

One seated reader needs 25 to 30 square feet, one research worker 35 to 75 square feet.

In public libraries the allowance should be as follows:

Population under 10,000	—	4 to 10 seats per thousand
between 10,000 and 24,000	—	4 to 5 seats per thousand
25,000 and 49,000	—	3 to 4 seats per thousand
50,000 and 74,000	—	2 to 3 seats per thousand
75,000 and 99,000	—	$1\frac{1}{2}$ to 2 seats per thousand

In university libraries the allowance should be three seats to eight undergraduates.

STAFF

Offices and work spaces should be planned on an allowance of 100 sq. ft. per person.

In public libraries the allowance should be $\frac{1}{2}$ to $\frac{3}{4}$ an employee per thousand population depending on the number of hours the library is open during the week.

CATALOGUE CASES

At least 2 ft. from floor and not more than 5 ft. high; 10 trays fit in this 3 ft. height.

A 5 tray wide case is approx. 2 ft. 9 in. wide, 1 ft. 7 in. deep. An average tray holds 1,000 cards; allow four cards per volume to permit cross-reference.

HEIGHTS OF LIBRARY EQUIPMENT

	ft. in.
Book shelving (adults)	7 6
Book shelving (children)	5 0
Reading tables (adults)	2 5
Reading tables (children)	1 10
Lending desks (adults)	3 3
Lending desks (children)	2 9

Figures taken from: Hoyt R. Galvin and Martin van Buren, *The Small Public Library Building*; UNESCO Public Library Manual No. 10, UNESCO, Paris, 1959.

Hoyt R. Galvin and Kathryn A. Devereaux (Editors), *Planning a Library Building*; American Library Association, Chicago, 1955.

Werner Mevissen, *Büchereibau/Public Library Building* (bilingual text), Essen, 1958.

ington 15,000,000, Moscow 20,000,000.

The warehousing of this information becomes an increasingly acute problem, especially as it is not unusual for a book collection to double in size in 25 years. This has frightening implications on the amount of flexibility needed in planning and the amount of space to be allocated at the outset for expansion.

All book shelving should be calculated on the assumption that at the opening of the library only half its capacity will be filled. This allows for the first gradual increase of books during a number of years until two-thirds to three-quarters capacity is reached—shelves should not be fuller than this if books are to avoid being damaged and are to be easily handled. Thereafter the amount of shelving will have to be increased.

There are possible stack arrangements which increase book capacity beyond that shown in the table of library statistics. They are, however, only suitable for closed access storage since they demand some movement of the racks as well as familiarity with the system of operation. These arrangements, some of them patented and marketed by specialist companies, depend in general on double banking the racks and swivelling or sliding the forward rack to reveal the one behind. The live loading on the floor will naturally be increased proportionately and this must of course be allowed for at the outset.

Sliding or swivelling shelving increases the book capacity of any given area by making storage more compact. The alternative and more drastic answer is to compress the information itself. Microphotography does this and can reduce storage needs by as much as 90 per cent. This has at least one significant architectural implication. The ratio of stack to reading space is likely to change drastically. A great many stacks are at the moment naturally designed with the most economical floor to ceiling height of 7 ft. 6 in. or even less and the thinnest possible floor-slabs. These may, however, in future have to become areas in which microfilm-reading machines are placed. There may equally be a need in association with these for various mechanical data processing machines since it is becoming increasingly difficult to select useful information quickly. It is eminently feasible to reduce a library catalogue to an inventory of punched cards from which a very large number of bibliographies can be extracted speedily. There may thus in future be considerable mechanization of several library functions. Each of these is likely to want horizontal service spaces which it will be difficult to fit into the minimum clearances which present economy suggests. These service spaces will be needed for the feeds to the machines themselves as well as for the controlled thermal environment which they so often demand. Current library building ought, therefore, to permit at least this foreseeable amount of change.

It would be rash to forecast, however, the complete extinction of the book merely because there are less bulky ways of storing information. This is in any library far from being the first consideration. The book is still the most handleable, the most immediate method of communication. And probably also, the most cherished.



22

Libraries are used a great deal at night and their appearance by artificial light is therefore important. The Public Library in New Orleans, 22, by Curtis and Davis discloses the whole of its interior through an aluminium sun-screen. 23, the penalty of such transparency, however, is that concentration becomes difficult and the apparent isolation of the reader impossible.

24, In his design for the Northeast Branch Public Library in Seattle Paul Thiry also recognized the importance of the night view within the scale of a suburban building.

23



24



255



25 26, the recent University Library at Sheffield by Gollins, Melvin, Ward and Partners marshalls its architecture and readers with considerable precision. Unless the librarian's ease of supervision requirement, such planning—despite its frequent application—rests on highly challengeable assumptions.

26



RYE

TOWNSCAPE

Kenneth Browne

Rye has the special problem that, being a hill-town, it overlooks the countryside around it and anything that happens there is obvious and obtrusive. To run a major road across that landscape would be fatal. The solution proposed in the following article employs the art of putting the thing you do not want to see so close that you cannot see it. It is the old story of the fat man who cannot see his shoes.

Like other ancient towns whose original *raison d'être* has gone, and which remain principally as tourist attractions, Rye is in imminent danger of being wrecked not only by misplaced and ill-designed building, but by the very traffic it attracts. To counteract these dangers it is essential that the basic qualities of the place be understood and quite consciously emphasized and safeguarded. Things cannot be left to chance and the facelifting of one or two streets. This is particularly so in the case of Rye for it has a basic conception that will not allow of compromise.

Seen from Romney Marsh, which bounds it on three sides, the silhouette of Rye is something you remember; a tight packed mound of ancient buildings, in outline more Italian than English, topped by the short pointed spire of the parish church—in maximum contrast to the dead flat marsh-land, once sea, that surrounds it. And from inside the town, looking out, the contrast is, or could be, equally satisfying. This contrast of town and landscape is something more basic than all the cobbles, tilehanging and half timber. But already the picture is part compromised, to the

east by an ill-placed council estate **2** and to the south, towards Rye Harbour, by gravel digging and concrete works. The latter, however, are sufficiently distant that they could be masked by a belt of trees and this should be done. Provided further encroachment is stopped, there is still sufficient marsh to make the contrast; but only just.

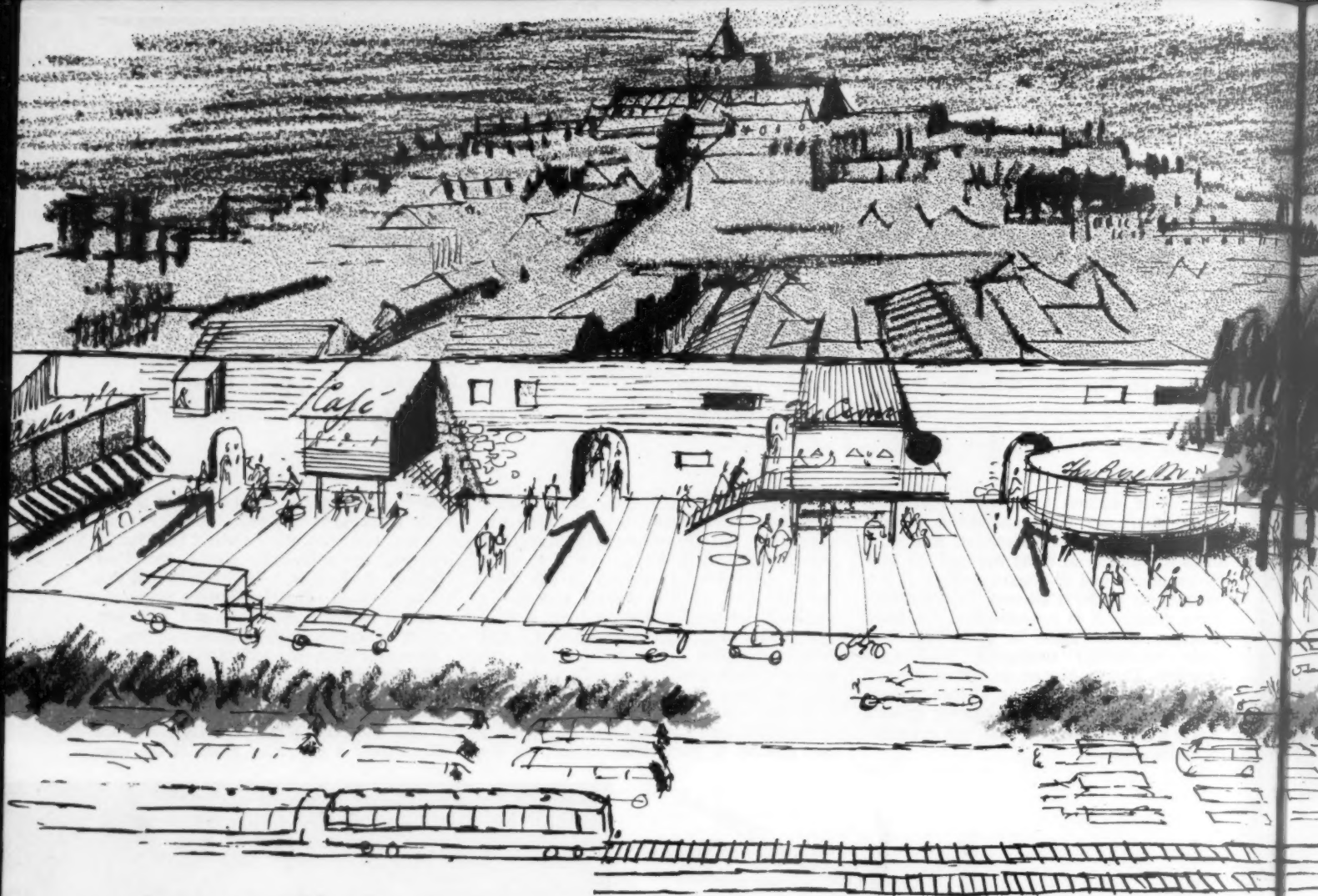
However there is another threat, for the A259 Folkestone-Hastings coast road, which at present fights its way through the town, is to be diverted. The choice of the right route is of utmost importance to Rye, and the alternatives **4** are either north of the town



SKETCH MAP showing alternative routes of A259



This conspicuous council estate **2** east of the River Rother completely ruins one sector of the marsh when seen from Rye. Black weatherboarded cornsheds **3**, fine examples of functional tradition on Strand Quay are threatened by road improvement!

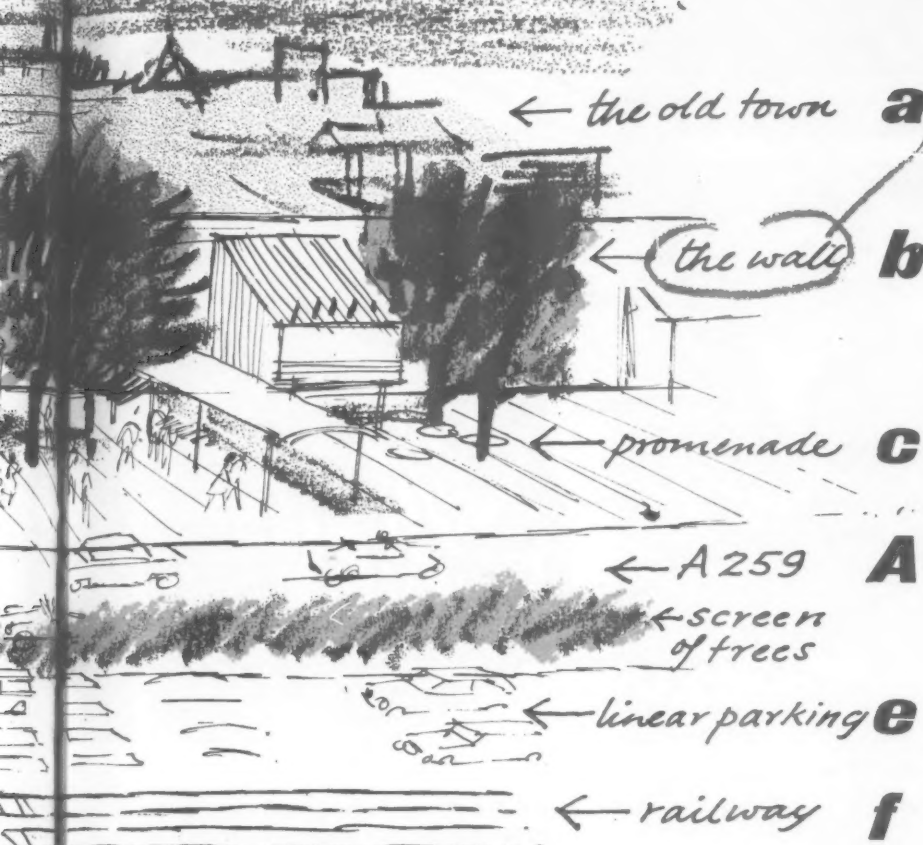


5 View looking south from the railway showing suggested new town wall



6 Air view of Rye as it could be

A Solution



A, parallel to the railway, or south of it B, across the marsh. A further compromise route which has been suggested, an adaptation of the existing route, along South Undercliff C, should not be considered for it would involve either the destruction of the fine black tarred cornsheds on Strand Quay 3, some of the best buildings in Rye, or if the road ran in front of them along the quayside it would divorce them from their context,

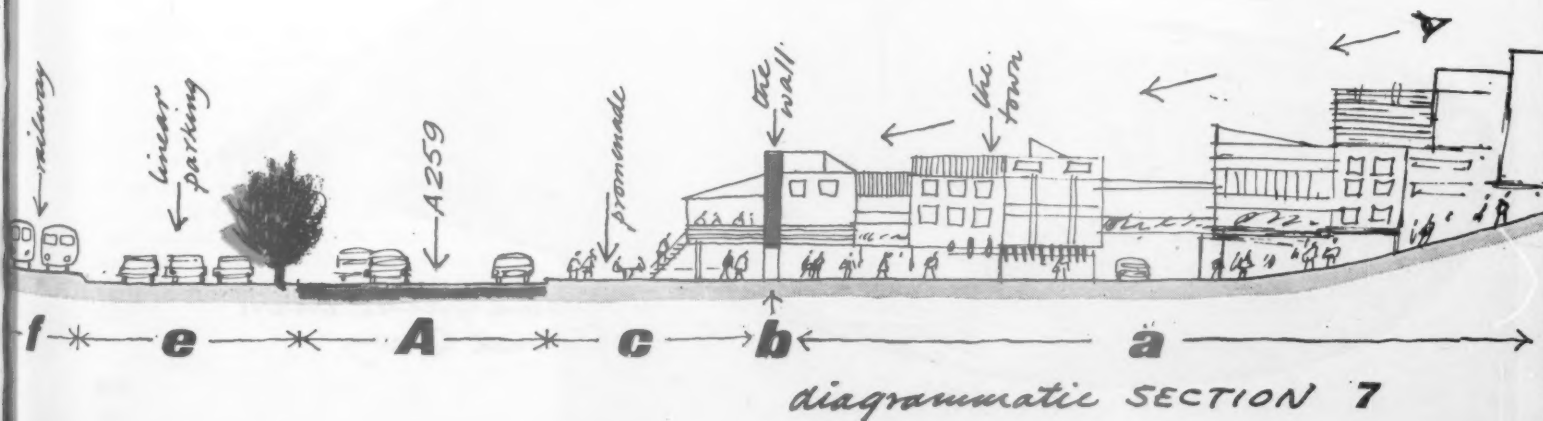
the water.

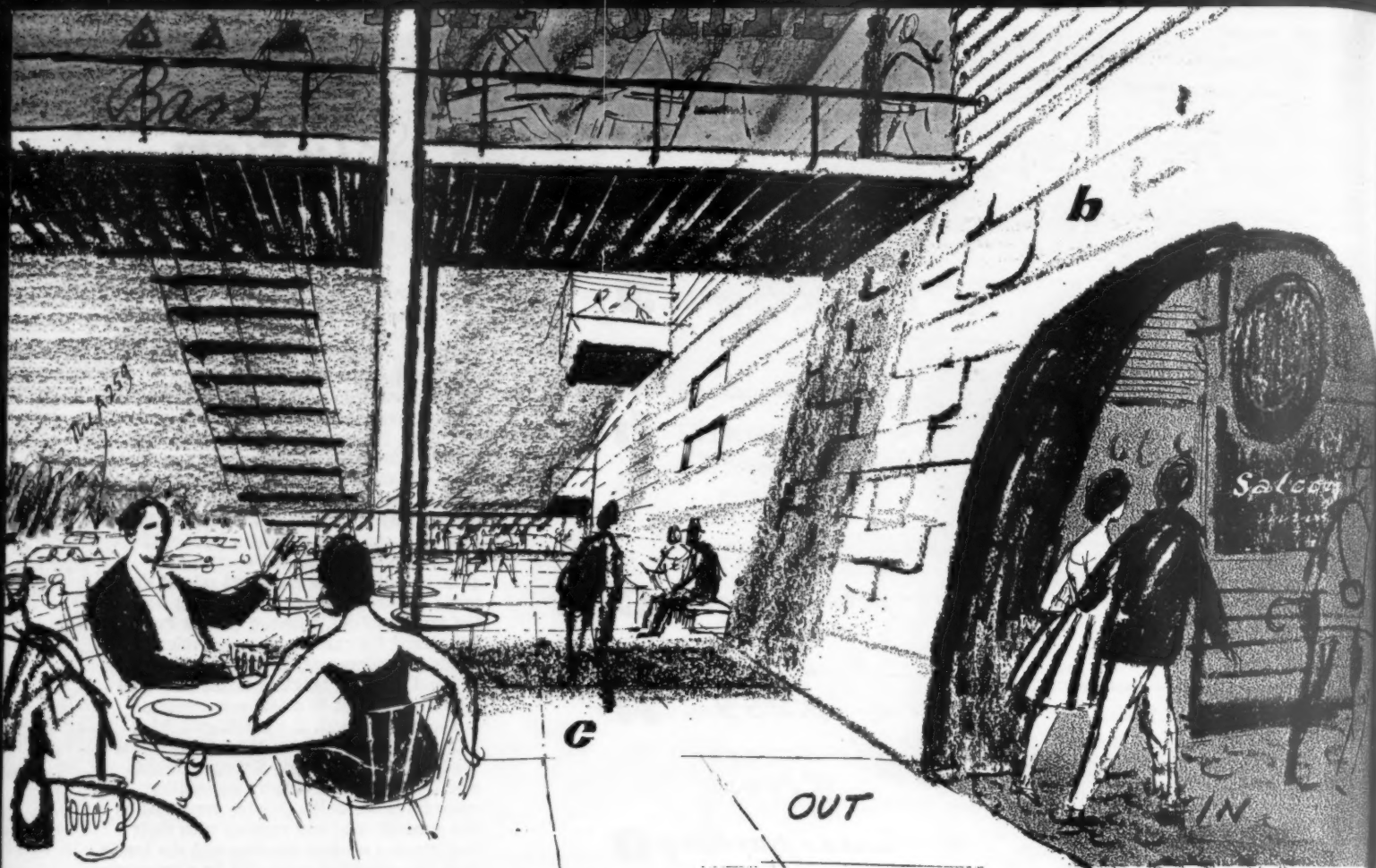
Of the workable routes A and B, the latter would undoubtedly ruin the contrast of town and marsh once and for all. It would run right across the foreground, looking out from the town, with no possibility of concealment. This leaves us with route A which is surely the right solution for then the road would be virtually out of sight at the rear of the town.

If, furthermore, this new road were placed on the town side of the railway it could be used to serve Rye in more ways than mere traffic flow. Sketch 5 outlines a scheme based on the fact that Rye was once a walled town. The original wall defended it against invasion and following this precedent, if the wall were rebuilt B but this time farther out, immediately on the town side of the new road, it would visually and physically defend the old world of Rye from the new world of the ring road and its fast moving traffic. It would also achieve a new clarity, now quite absent, on the landward side of the town, besides masking the road. At present the area involved, between Cinque Ports Street and the railway, is a shambles and needs redevelopment. This could go hand in hand with the building of the new wall which would not be a separate structure but integrated with the buildings behind it S, S. However, from the road it would read as a barrier clearly defining Outside and Inside; thus setting up an exciting contrast between the Outside expressed by the straight road and railway with their fast moving modern vehicles and the Inside with its pedestrian scale and its picturesque, medieval, tortuous streets—the power of the magnet would be increased.

Traffic entry to Rye would be strictly limited to avoid the present congestion and the irritation of seeing everything over car roofs, but there would be ample linear parking for cars and coaches e between the road and the railway (masked by a screen of trees). A roundabout would be necessary opposite the station to facilitate movement between it and the town. Between the road and the wall there would be a wide pavement promenade c with cafes, pubs, etc., from which the old town a would be entered on foot through postern gates in the wall S.

In addition steps should be taken to

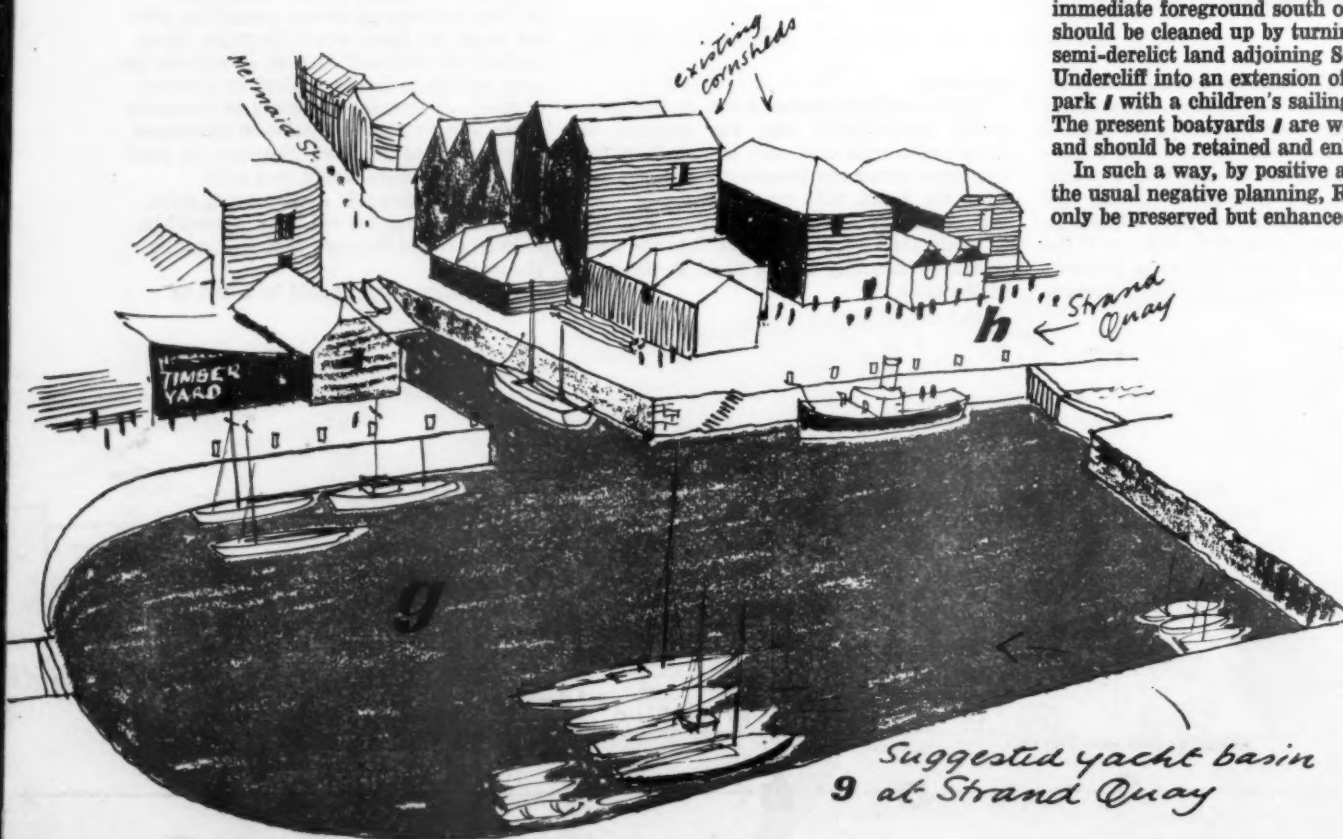




8 View looking along the promenade
— outside the town wall

revitalize the run-down Strand Quay by the provision of a yacht basin *g* (6, 9) and the immediate foreground south of the town should be cleaned up by turning the semi-derelict land adjoining South Undercliff into an extension of the existing park *i* with a children's sailing pool *k*. The present boatyards *j* are well placed and should be retained and enlarged.

In such a way, by positive as opposed to the usual negative planning, Rye could not only be preserved but enhanced.

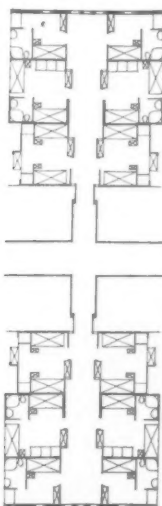


Suggested yacht basin
9 at Strand Quay

ss Canberra

owner : P & O/Orient.
 Naval architect : John West
 Co-ordinators of
 interior design : Sir Hugh Casson,
 Neville Conder
 and Partners in
 Association with
 McInnes, Gardner
 and Partners.
 associate : Timothy Rendle.
 architect for tourist
 public areas : John Wright.
 chief assistant : Frederick Hickman.
 cabins, service
 areas, officers' and
 crew quarters : Barbara Oakley.

Last month's ID dealt with the main first-class areas of the *Canberra* but not the first-class cabins. These now appear on the next two pages, and are followed by John Wright's designs for Tourist class.



sketch plan
of court cabin
layouts

The first class cabins of the *Canberra* (designer: Barbara Oakley) are planned in a manner that is a major innovation in ship design. The grouping in sixes around public courts was worked out by the naval architect and the interior co-ordinators, and taken to full-size mock-up as described in last month's AR. The staggered plan gives each cabin a slit window facing the sea and a little borrowed light, while the view, right, cross-ship, reduces corridor claustrophobia.



ID



The de luxe suites (designer: Barbara Oakley) with a floor area of approximately 400 square feet each and four large windows, designed as dayrooms (but convertible into bedrooms), with entrance lobby, bathroom, toilet and luggage space. Ceilings in the cabin areas are of white painted strip boarding. The walls are surfaced in grass cloth, wheat cloth and wallpaper, and the suites are fitted with specially woven mottled carpets. There are four colour schemes to the eight cabins and the furniture is in teak, Swedish pine, elm and Rhodesian rosewood.

2, detail of bedside unit housing controls for ventilation, lighting and radio. Lights act as bedside lights for twin beds. 3, principal fitment unites dressing table, clock, radio, 17in. television set, storage for glasses and refrigerator. 4, daytime arrangement with one bed used as settee and other folded. 5, night-time arrangement with twin beds and fitted table between.

2



3



4



5

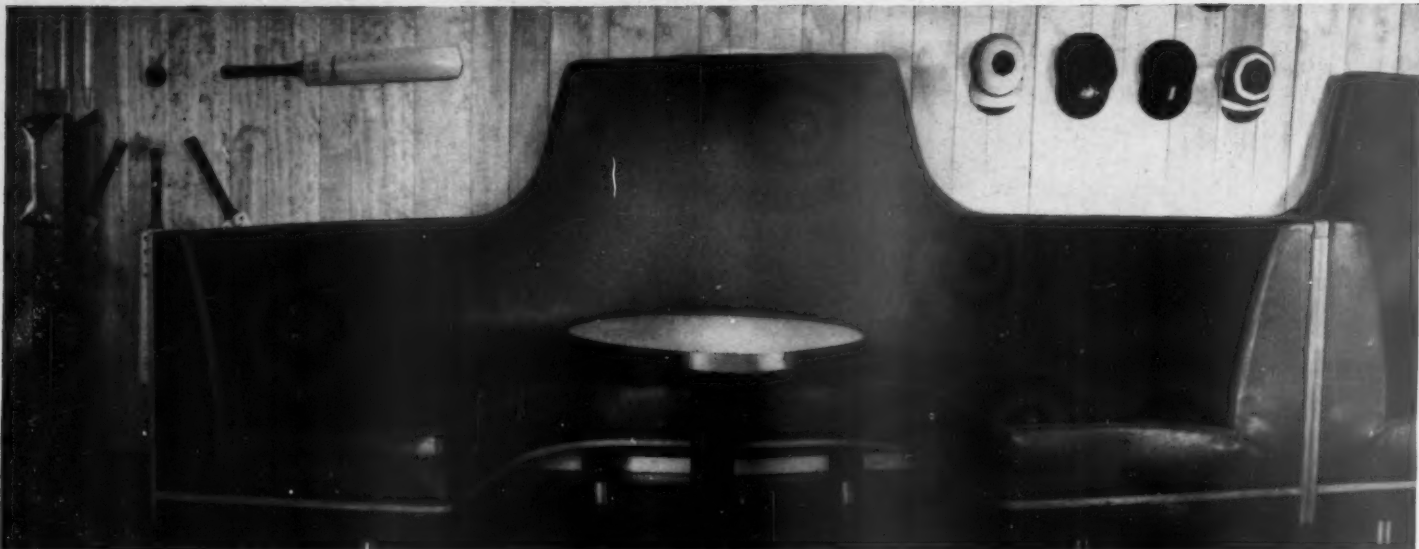


6

The Tourist Class Restaurant (designer: John Wright), seating 704, is the largest afloat. 6, detail of dumb waiter and fixed bent ply seating upholstered in dark blue and green leather. The timber throughout is M'ninga. Behind the table is one of the slotted fins which project from the side walls providing partial screening. 7, general view. The large area has been further broken up with cast aluminium bas-relief sculptures. The walls are of iridescent greeny-gold glass fibre sheets. Floor in dark blue lino, and the ceiling white slotted acoustic panels. Lighting is controlled so that it can be softened for night use.



7

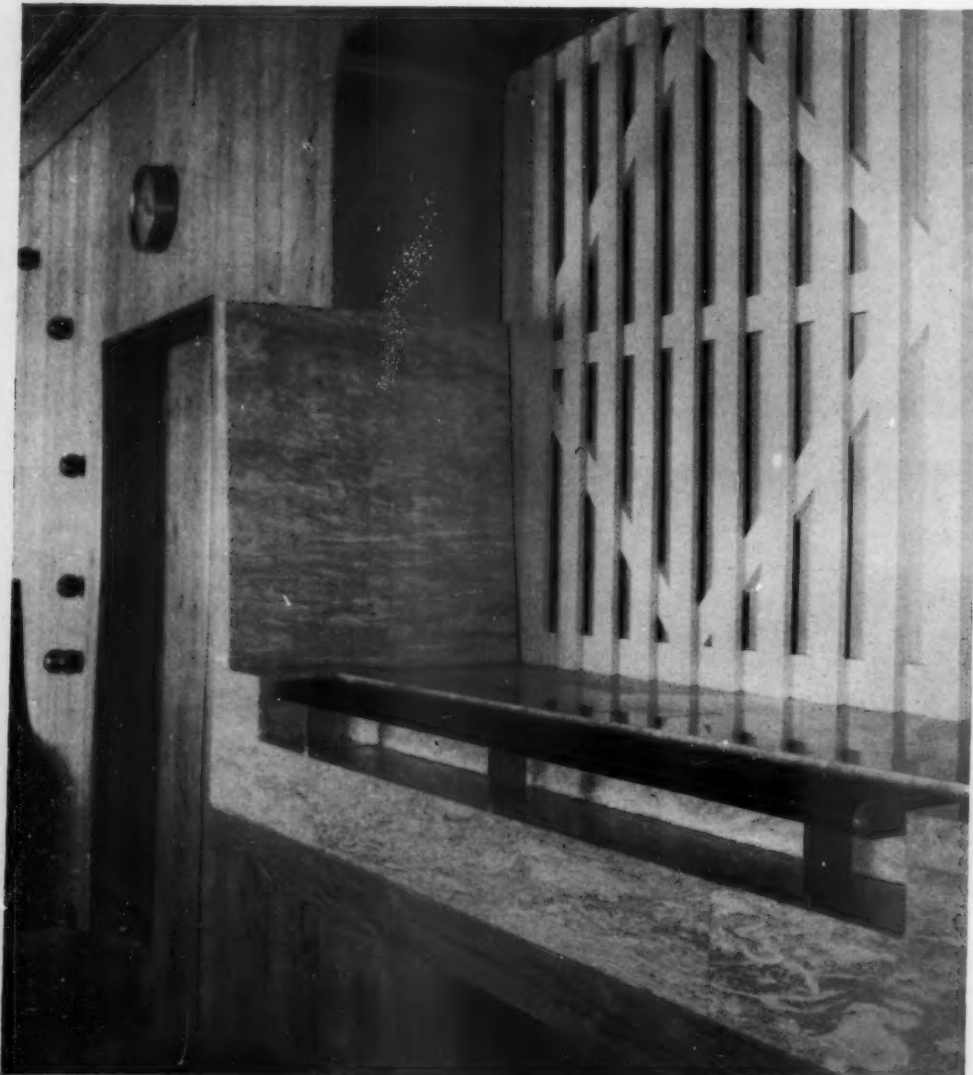


8

ID

Tourist class Cricketers' Tavern (designer: John Wright). 8, behind the semi-circular seating the wall is faced in willow, with a montage of bats, balls, caps and pads designed by Margaret Redfern. 9, the bar is topped in white marble with hand grips for unsteady passengers wound round in black twine bat-handle-fashion. 10, seating areas are subdivided by life-size paintings of W. G. Grace and others by Ruskin Spear.

9



10



11



12

The Peacock Room is the principal lounge for the Tourist Class (designer: John Wright). 11, cardroom off the main area. 12, the floor is white to the main area with diagonal stripes to a small section which can be cleared for dancing. The walls and ceiling are dyed blue wood veneer. The wooden relief on the far wall, and the canopy overhead, were designed by Robert Adams. The cut-out bent plywood chairs form a fixed serpentine section in the centre of the room with table and loose chairs beside. 13, detail of the bar in 'Alice Springs,' the tourist lounge by the swimming pool. Marble bar top with cane-work which is also used for fixed seating elsewhere.

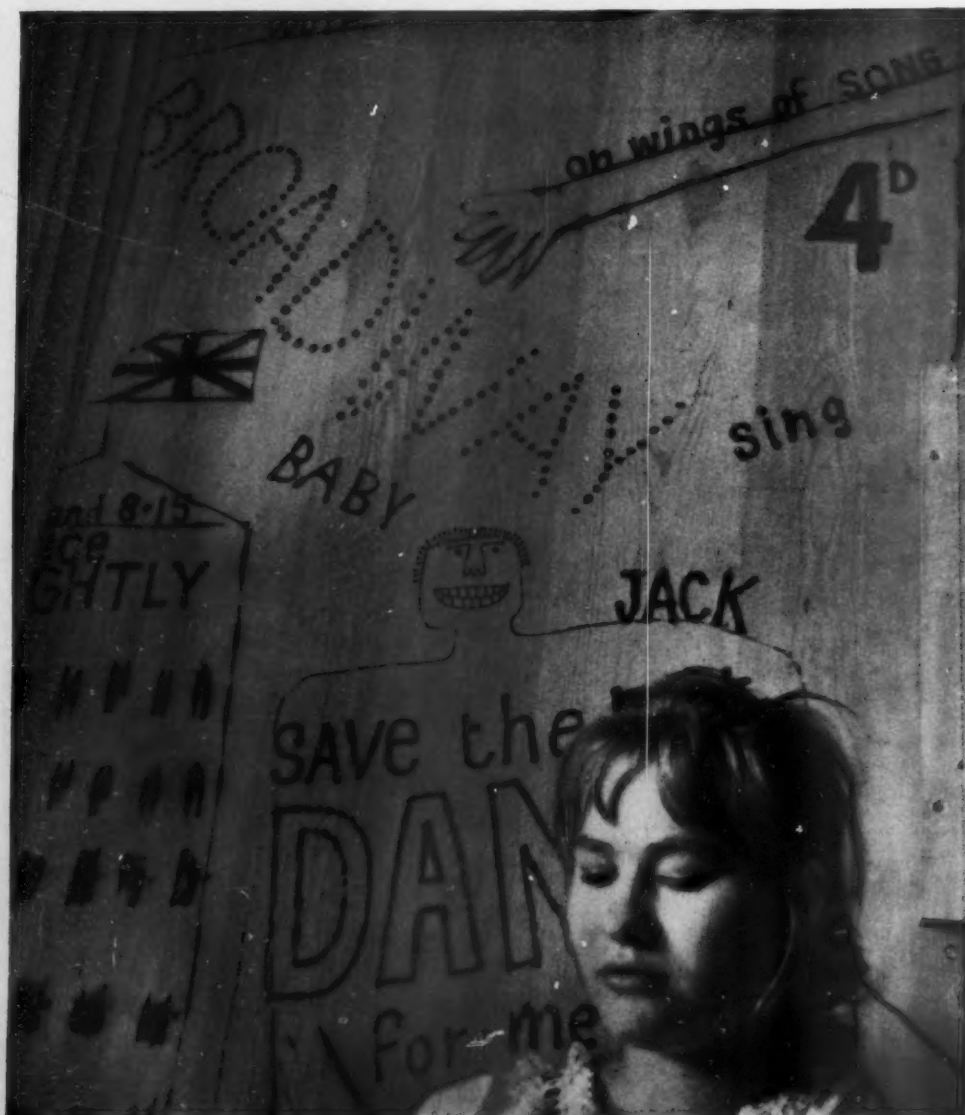
265



13



14



15

14, 15, 16, 'Pop Inn,' tourist class teenagers' retreat (designer: John Wright) an idea not tried afloat before. Vice-absorbers are provided in the form of a coffee bar, soft drink dispenser, nylon fur upholstery, juke box. Stand-up tables are made of hundreds of strips of coloured perspex with internal fluorescent lighting. On the deal panelled walls David Hockney, of the Royal College of Art, has drawn poker-work sgraffiti that may encourage, or inhibit, teenagers from extending the design on a do-it-yourself basis.

ID



16

Peter Collins

Vose Pickett:

A New

System of

Architecture

METALLURGIC ARCHITECTURE 1844

If the demand for a New Architecture, formulated in the 1830's and 1840's, produced no recognizable response until the end of the century, it was because the architects of that century were confused in their own minds as to what they were actually trying to bring about. They seem to have assumed that a new architecture must also be a structurally true architecture, and since no radically new structural system was evolved before the creation of the rigid multi-storey frame of steel or reinforced-concrete in the 1880's (which differed essentially from the frames containing cast-iron columns, in that the latter could not resist tensile stresses), any attempts to produce a New Architecture before that time inevitably resulted in little more than superficial decorative modifications to traditional tectonic shapes.

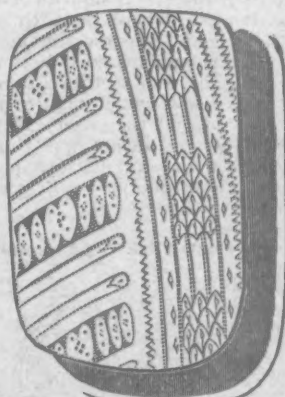
There was, however, one prophet who understood the true nature of the demand, and for that reason, if for no other, he deserves to be rescued from oblivion. His name was William Vose Pickett. With a single-mindedness and lack of scruple unique at that time, he appreciated that the only profitable aim in undertaking such research was to seek a completely new vocabulary of shapes, without worrying about structural rationalism, since once this was created all else could be made to accord. The essential thing, he said, was to devise a kind of beauty which was integrally dissimilar from that exhibited in existent architectures, and he considered that two things were necessary to achieve these objects: firstly, 'a new order of forms,' and secondly, increased amenities such as 'comfortable modifications of temperature, free admission of light, and general convenience and economy of space.' Other writers had regarded the slow evolution of past styles as an overriding reason why no new style could ever evolve otherwise, but Pickett maintained that 'that which the world has never yet had is now within the reach of ourselves, and is nothing less than a really NEW Architecture.'

Two occurrences seem to have combined to give him his inspiration as to how this could be

brought about. The first, he informs us, was a visit to some caverns in Derbyshire, where the stalactites suggested to him the idea of a new architecture of curves. The second, about which he is rather reticent, was the publication, in 1842, of Ambrose Poynter's prize-winning RIBA essay entitled *On the Effects which should result to Architectural Taste, with regard to Arrangement and Design from the general introduction of Iron in the construction of Buildings*. Poynter had not considered that there was any logical way in which iron could radically modify traditional forms, but Pickett insisted that iron, being cast, was not suited to sharp angles, and by combining the two ideas, proposed a 'Metallurgic Architecture' of plastic shapes, which he patented on May 7, 1844. Despite the name, he did not confine this architecture to metal construction, but considered all manufactured materials, such as papier-mâché, as appropriate for the application of his theory.

Two analogies were used to

First Primary Principle.



The first principle of Vose Pickett's New System involved the use of hollow metal walling carried on a metal skeleton, with a 'chased ornamental surface' and 'paint or enamel' for the introduction of various colours and resplendency.

support his proposals. Firstly, as evidence of the perfect and satisfactory applicability of metals to 'numerous synonymous purposes,' he instanced bridge-building and ship-building. Secondly, as evidence of the logic of curved structural forms, he instanced

'organic nature in general.' In the human skeleton, he observed, the rounded or undulating line is generally predominant, whilst in the composition of flowers, the curved line is also predominant, although counterbalanced by the introduction of straight lines in the stamens and stems. These curved forms can be justified on structural grounds, since the variations in the thickness of, say, the leg-bones of animals, clearly correspond to the variations in stress to be resisted, and he noted that animal bones invariably swell out wherever there is a joint. The same principle was observed by engineers in designing the components of machinery, such as piston-rods, so why not also in architecture?

The incidence of both straight and curved lines in plants was used by Pickett to justify similar juxtapositions in his New Architecture, since he saw that it was inevitable that certain elements, such as floors, would have to be designed as flat surfaces; but he objected to any angular junctions or sharp corners, and envisaged an angle-less architecture composed predominantly of curves. He foresaw that this would mean rejecting all the traditional canons of proportion, but again he could justify his theory by analogy with natural organisms. The existence of proportion in the productions of organic nature, he explained, could not be ascertained by measurement or calculation, but could only be perceived intuitively. It therefore followed that a similar condition applied to an architecture modelled on nature, in that the proportions of a building designed in this manner could only be adjusted in the way a sculptor gave beauty to a statue, i.e. 'through the mental operation of feeling and judgment in the artist.'

In addition to his general notion of plasticity, Pickett put forward several other ideas which seem to have anticipated the architecture of a later age. Firstly, he proposed that instead of supporting roofs on a series of columns, they should be designed according to a system analogous to the suspension bridge. In its most modest form, the system he envisaged merely involved the substitution of suspended cano-

pies for colonnaded porticoes, as in the design he submitted to the Commissioners of Woods and Works for the modification of Nash's Regent Street Quadrant in 1848. But he also envisaged the spanning of vast halls, such as auditoria and churches, and considered that the recently completed suspension bridge at Charing Cross, with a span of 700 ft., was 'perfectly analogous to a roof.' In applying the principle of suspension, he explained, it would be sufficient merely to provide an efficient skeleton frame on which to rest the roof, and from which to hang the chains. The enclosing walls might then be as slight and thin as the

Second Primary Principle.



The second principle was 'interstitial ornamental form'—in other words, suspended pierced screens and grilles to control the light reaching windows, and to cast ornate shadows on wall surfaces.

general purposes of shelter and comfort would permit. This system should not, he said, be concealed, as so often happened with structural ironwork, since being the simple expression of a basic principle of metallic construction, it must inevitably be in perfect harmony with the rest of the building. The skeleton frame would give singularly beautiful effects of light and shade round the outer circumference of the building, and a fine sky-line would be produced by the pinnacles with their suspended chains. He submitted a project incorporating this principle for the Army and Navy Club Competition of 1847

but his only reward was a derisive paragraph from the editor of *The Builder*.

Secondly, he envisaged the introduction of built-in furniture. The hollow walls of his metal-framed houses could be used, he said, for the purposes of storage usually fulfilled by wardrobes, cabinets, and other heavy or cumbersome pieces of furniture, which mar the architectural effect of an apartment, harbour dust, occasion trouble with the carpeting, stand in the way, increase the cost of housekeeping, and 'constitute the class of furniture most difficult to reconcile with architectural proportions and arrangements.' Could their presence be dispensed with in houses, he continued, the difficulties of making furniture harmonize with the general design of interiors would be in a great measure overcome. 'Modern builders,' he complained, 'instead of following the example of nature, and causing beauty to issue out of each and every utility, have renounced the offered conveniences, rather than call in the aid of taste and invention to the accomplishment of the latter result.'

Pickett also proposed the use of pierced metal screens, suspended a short distance in front of the façades of buildings, in a manner which sounds curiously descriptive of the currently fashionable metal *brises-soleil*. He thought of these elements as mainly decorative, arguing that since the characteristic ornament of masonry architecture consisted of forms carved in relief out of the solid structural mass, the 'extraneous or decorative features' of his New Architecture should consist of delicately pierced plates secured by rods in advance of the wall. These, in addition to being ornamental in themselves, would cast shadows on to the surfaces of the hollow metal walls to which they were attached. But he also envisaged them as performing a functional service. 'The utility it is intended to serve,' he wrote, 'is that of a sun-shade, it being an external appendage to heads of windows exposed to strong light and sunshine. Being composed of interstitial or transparent metalwork with an inner lining of brass gauze, it is eminently calculated to check the force of the sun's rays, without excluding the light during dull weather.' It was, he claimed, equally suited to public as well as private edifices since, while serving a similar use, it would impart a bold and imposing effect to the external façade, and at the same time exhibit its decorative effects of light and shade inside the building.

Pickett marshalled every argument which might serve to persuade his readers and his audiences, and he did not fail to explain that the forms he recommended could be justified on practical grounds, with respect to the technique of casting metals. But whilst urging the adoption of his proposals by appeals to

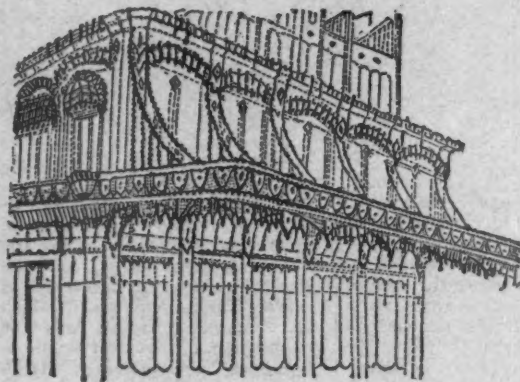
structural rationalism, he had none of the fastidious distaste for shams evinced by most of his contemporaries. Indeed, it is his brazen disregard for the sacred nineteenth-century principle of the primacy of structure as the determinant of architectural form which distinguishes him from the other theorists of the period, and relates him so closely to the creators and successors of Art Nouveau. 'In the practice of this Architecture,' he proclaimed, with even more italics than usual, 'there will of course be no more necessity for the employment of iron in the construction of the walls of edifices, than there is for the use of stone for the like purposes of other Architectures; brick, bitumen, and various species of cement being equally available as substitutes for either. But while (in the practices of pre-existent Architecture) cemented walls are required to be cut or marked out in straight lines, to represent the effects of blocks of stone in masonry, so likewise whenever similar substances are made use of in this art, it will be equally necessary to employ them in such a manner as that they also shall represent the external effects of a principle of construction consistent with the forms and general purpose of this art, and adopted to the native properties of iron.'

It is not perhaps immediately apparent why Pickett's ideas should have taken so long to be accepted, in view of the fact that all his proposals have been put into effect during the last sixty years. But he had, alas, one grave deficiency which proved an insuperable barrier to the propagation of his schemes. He was unable to draw. In the preface to his book, he made a pathetic appeal to 'any artist who might find himself prompted by the impulses of genius to produce illustrations of the system,' but presumably none was forthcoming, for no illustrations were included in his published descriptions, and only vague sketches accompanied his patent, and the advertisements he handed round. He thus had to rely on the impassioned imagery of the written word. In 1845 he published, with the tardily acknowledged assistance of his sister Elizabeth, a 144-page book entitled *A New System of Architecture*, and for the next four years he tried to promote his ideas by means of articles in the *Athenaeum* (No. 867), the *Fine Arts Journal* (vol. i, nos. 15-26), and the *Westminster and Foreign Quarterly Review* (April, 1849); by lectures to such organizations as the Society of Arts and the Brighton Literary and Scientific Institution; and by addresses to the Prince Consort, the President of the Board of Trade, the RIBA, the Royal Commission of Fine Arts, the Royal Society, the Royal Academy and the King of the French.

The Academy Professor (C. R. Cockerell) suavely replied to his letter by saying that he rejoiced

in the acquaintance and polite regard of a mind of Pickett's deep quality, cultivated with so much sound and various learning and eloquence, but he continued: 'With the accustomed warmth of genius and originality, you have treated the subject with an enthusiasm that few readers will

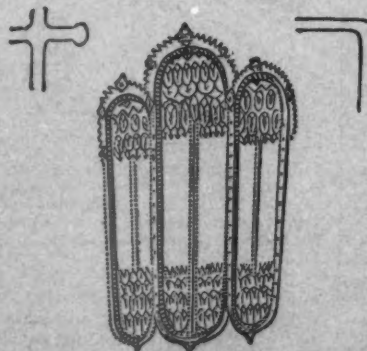
Third Primary Principle.



The third principle of Voss Pickett's system involved the substitution of suspension members for brackets and columns to all projecting members such as porticoes and canopies.

acquiesce in; for you term that a discovery which is an improved and enlarged view of what has been going on in Europe for some time; . . . where shall I send your precious manuscript, being unwilling to consign it to the post?' The Prince Consort's secretary's reply was less tortuously subtle, and simply stated that 'from the investigation which his Royal Highness has made on the subject of your invention, he regrets to say that he does not consider it of any value and importance, and will therefore not trouble you to send any model for his inspection.' But Pickett's ideas were not entirely without influence, since it seems reasonable to suppose that Jean-Baptiste Jobard, the director of the Belgian Industrial Museum, got his much-publicized idea of a 'Metallurgic Architecture' from Pickett's book, and it may even be possible that the latter's *New System of Architecture* was thus the direct inspiration, and not merely a prefiguration, of Belgian Art Nouveau.

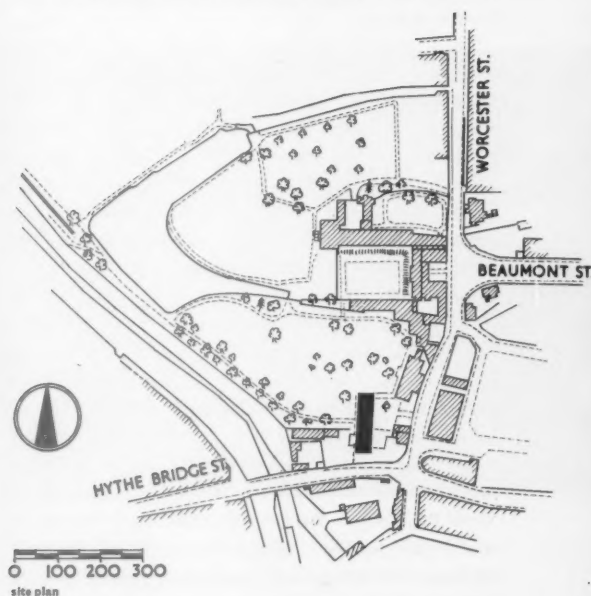
Fourth Primary Principle



The fourth, in Pickett's own words, 'consists in the general substitution of curves . . . throughout the primary parts and apertures of buildings, instead of the angular forms so prevalent in all erections in the masonic arts.'

Undergraduate Rooms, Worcester College, Oxford

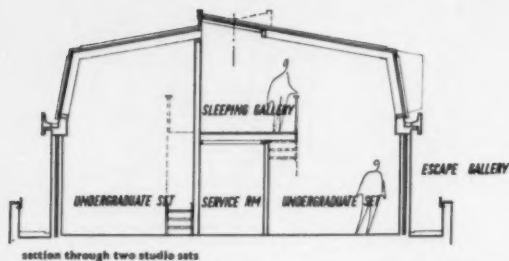
**ARCHITECTS: SIR HUGH CASSON,
NEVILLE CONDER AND PARTNERS
PARTNER-IN-CHARGE: RONALD GREEN**



1, the east elevation. 2, from the north-west.



This is the first stage of a proposed development at the southern end of the existing college grounds, backing on to Hythe Bridge Street. The building, which houses 40 undergraduates, one Fellow and two guests and provides also a large common-room on the ground floor, is placed at right-angles to the street, its northern end therefore protruding into the college garden—see site plan. Later buildings will be along the perimeter of the site, one of



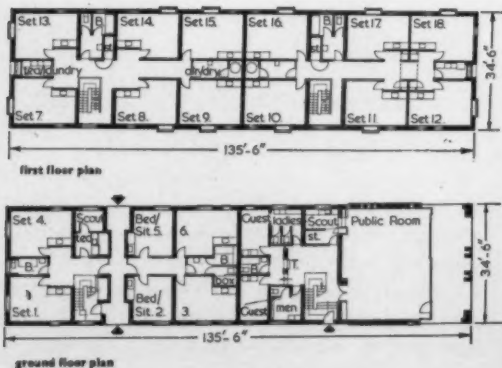
them creating a partly enclosed quad with the building illustrated here.

The four-storey building is planned on the traditional staircase system, with a sitting-room and bedroom recess for each undergraduate, each 'set' having also basin-wardrobe area closed off by a partition (not shown on plan), reaching to within four feet of the outer wall. Six 'sets' lead off each landing, and on each staircase are bathrooms, scouts' pantries and tea-points or drying rooms for communal use. The rooms on the top floor are two-level studio rooms—see sectional drawing.

The building is of load-bearing cross-wall brick construction with reinforced concrete floors insulated against sound transmission. Facing bricks are 2 in. hand-made Crowborough. Modelling is given to the façades by projecting study-windows (in aluminium) on brick corbels and by a recessed top storey. The ground floor is set back outside the common-room to form an arcade, and a new underpass has been made in the old buildings to form a visual link between the old and future quads between the new buildings. The roof-covering is ribbed aluminium sheeting. Internal joinery is Burma teak. The rooms have electrical under-floor heating operated by separate thermostats, supplemented by panel electric fires.

Undergraduate Rooms, Worcester College, Oxford

3, the north elevation, with the public room on the ground floor. 4, interior of the public room.





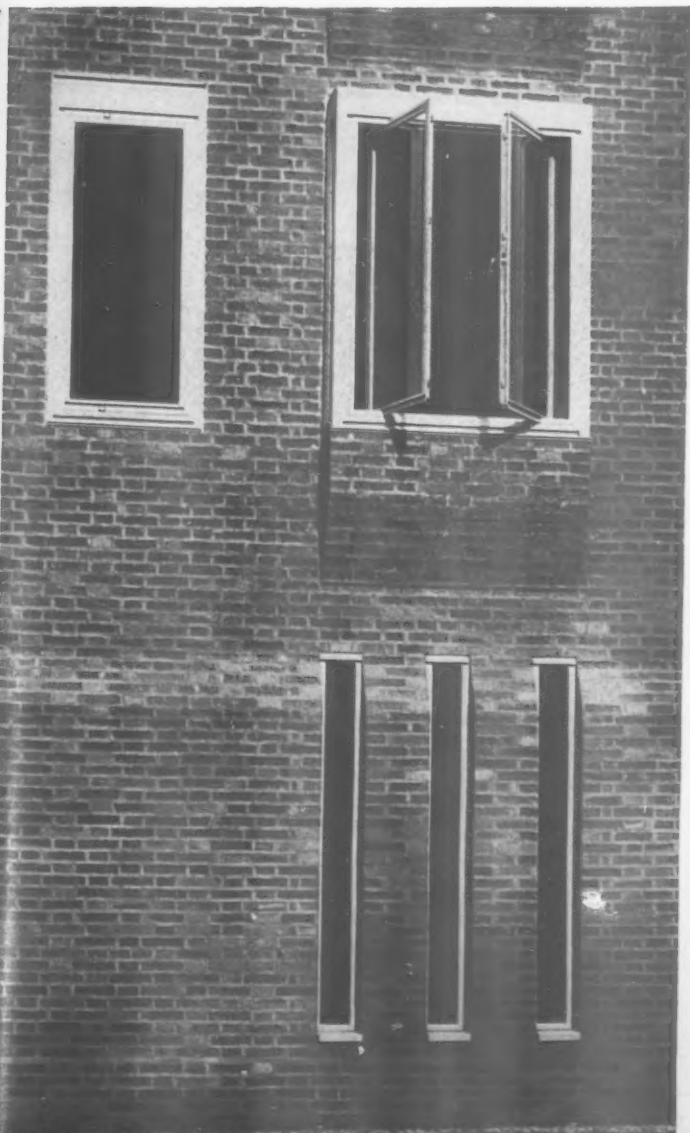
5



6

5, one of the staircases. 6, inside a typical set. All rooms and corridors are painted with white emulsion paint, but in some rooms a bright patch of colour has been introduced to give individuality. This patch is either on the wall behind the fireplace or by the bed, to hide marks by people leaning against the wall. A limited number of pieces of furniture were chosen and a different combination was worked out for each room. This was also done with colours of the curtains, bedcovers and upholstery fabrics, but all the curtains were lined with the same colour. Hard-wearing, washable and reversible rugs were specially made, which would fit in with any of the schemes. 7, detail of the windows; the slit windows are to the public room.

7



Boy Scouts' Hostel, Kensington, London

ARCHITECT: RALPH TUBBS

1, the hostel from Cromwell Road, with Queen's Gate on the right.



This building is called Baden-Powell House after the founder of the Scout movement (to whom it is a memorial) and provides hostel accommodation for scout visitors and facilities for scouts to meet socially. The site is at the corner of Queen's Gate and Cromwell Road.

There are two floors of dormitories for scouts, giving sleeping accommodation for ninety-five and, on the floor above, bedrooms for thirty-one scouters and four resident staff. A common-room, games room, library and quiet room and a dining-room to seat one hundred provide for social life in the building, and a room with an altar provides for small religious services. An auditorium, which takes an audience of 337 and which has a properly equipped stage, will make it possible to give theatrical performances and hold receptions. Pent-house flats are provided on the sixth floor for the warden and the resident engineer and in the basement there is a garage for 20 cars entered from the mews at the back.

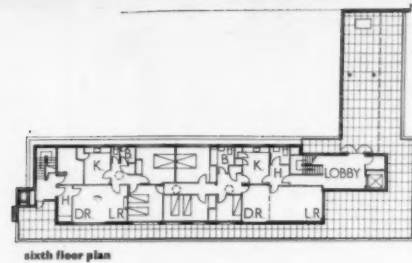
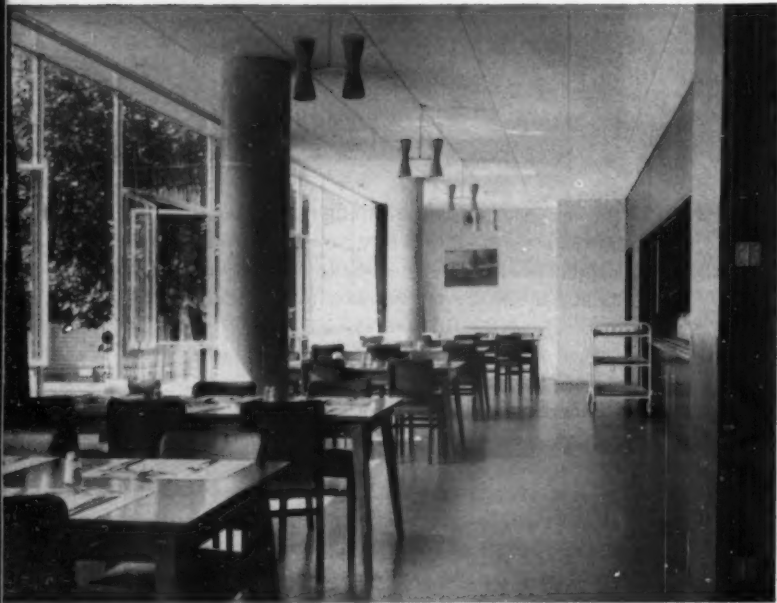
Externally the building is designed to provide a sufficiently powerful junction between Queen's Gate and Cromwell Road, the scale of Queen's Gate being considerable. Its general height has been picked up on the Queen's Gate frontage, and the effective sight-line of the wing to Cromwell Road has been reduced to be in sympathy with the lesser scale of this road. The first floor of the wing to Queen's Gate is void, so that the roof terrace on top of the hall has a view through the wing on to the gardens and trees of the Natural History Museum.

Internally the treatment is free and open, the whole of

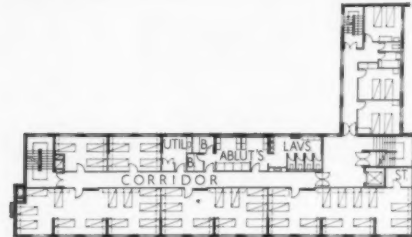


Boy Scouts' Hostel, Kensington

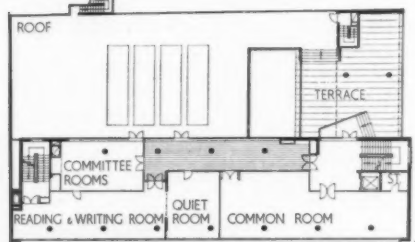
2, the main entrance. 3, the dining room on the first floor.
4, typical dormitory. Opposite page: 5, the entrance hall.
6, the garden court from the entrance hall.



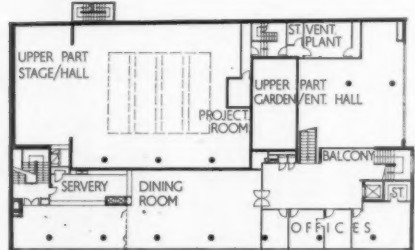
sixth floor plan



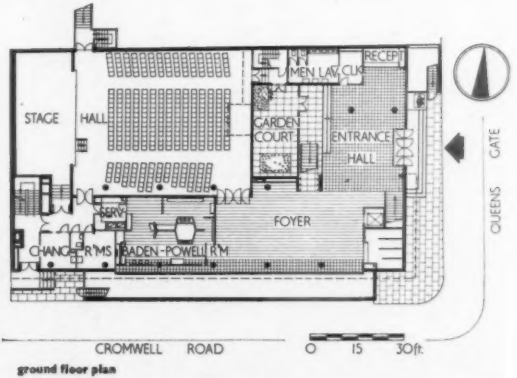
third floor plan



second floor plan



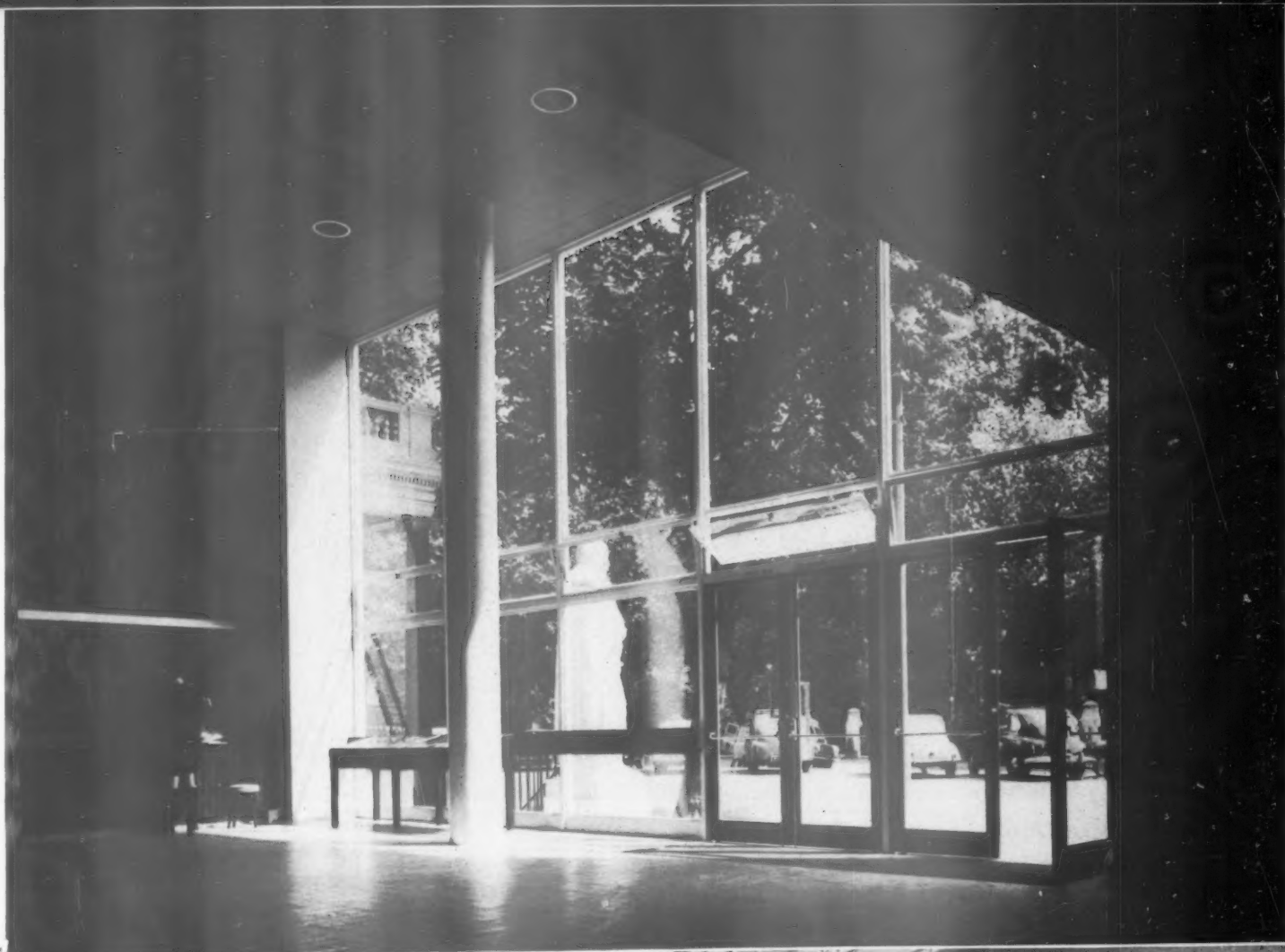
first floor plan

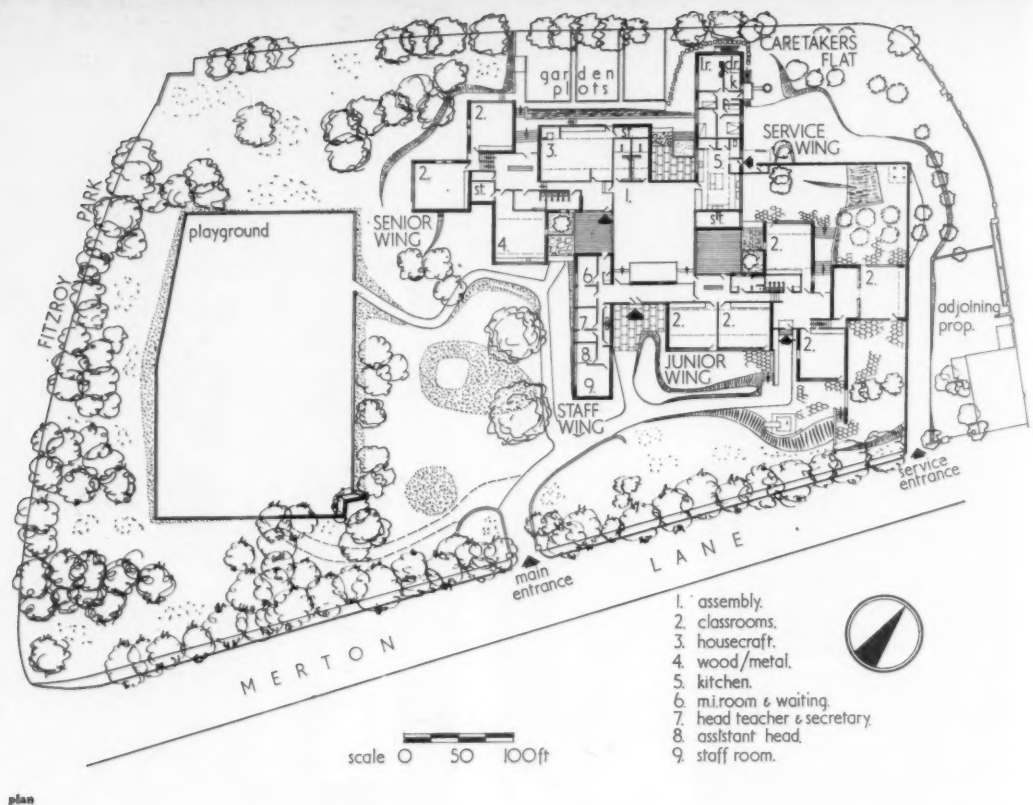


ground floor plan

the ground floor, apart from the auditorium, being subdivided with either glazed screens or sliding partitions. Part of this free open space is used as a memorial exhibition to Lord Baden-Powell. The entrance hall is two storeys high, with the first floor landing overlooking it in the form of a balcony. The glazed screen immediately opposite the main entrance doors gives a view on to a small garden court. The building has a reinforced concrete frame, using high-tensile steel, the main wings being supported on two rows of columns only. The cladding is 11 in. brickwork.

Consulting engineers, Frederick S. Snow & Partners.
Quantity surveyors, B. G. Coffin & Partners.





School at Highgate, London

ARCHITECT: STEPHEN GARDINER

Holly Court school is a London County Council mixed school for 180 educationally sub-normal children between the ages of 5 and 15. Nine classrooms were asked for, two specialist rooms (for metalwork and homecraft), an assembly-hall which could also be used for dining and as a gymnasium, administrative offices and a caretaker's flat. The LCC made two specific educational conditions. One was that the junior and senior schools should be clearly separate so that those in the junior school should have an ambition to reach the senior school. The other was that the admission classroom—with its own lavatories, etc.—



1, the two-storey senior wing from the south-west. 2, from the south with the senior wing on the left and the staff wing in the centre.

should be, if possible, somewhat isolated and with its own play-space, encouraging new children to settle down more easily.

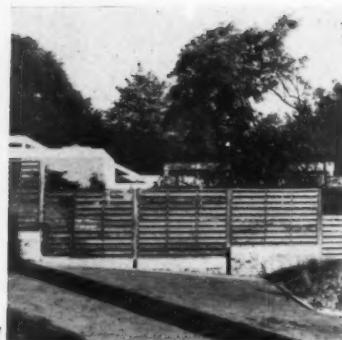
The site is on the boundary of St. Pancras North and Fitzroy Park. In a southerly direction it overlooks Hampstead Heath and has a considerable slope. The ground is well planted, having been the garden of a house demolished many years ago.

The school is planned in four wings, arranged round the assembly-hall. In order to preserve the landscape and retain the garden character, it is designed as a single-storey building although the various classrooms, etc., step up and down to suit the contours. The building is dug into the upper part of the site (where the original house stood) to preserve the trees and give the best views over the



3, looking down on the school from the north with the assembly hall behind the service wing. 4, close-up of the assembly hall.





heath. To avoid over-enclosure and lack of light in this situation, the classrooms have clerestory windows that give a continuous view of the sky in the centre of the room.

The school is of cross-wall brick construction with facing bricks of a hard yellow London stock. The assembly-hall roof is carried on mahogany window-mullions.



School at Highgate

5, looking towards the assembly hall courtyard, with the senior wing on the left and the staff wing on the right. 6, inside the assembly hall courtyard. 7, screens in front of the classroom blocks. 8, classroom interior showing clerestory windows. 9, the service road looking north.

EXHIBITIONS

SCULPTURE AND PAINTING

The exhibition of Italian bronze statuettes at the Victoria and Albert Museum which was organized by the Arts Council in collaboration with the Italian Ministry of Public Instruction and the Rijksmuseum, Amsterdam, included some of the most famous small sculptures in the world. Apart from one small thirteenth-century head from the workshop of Nicola Pisano, the period covered was from the fifteenth to the mid-eighteenth centuries. The one thing which I found beautiful and arresting at first sight was the thirteenth-century head, made before the Renaissance got into its stride: it was the only one which did not make mute signals and the only one which seemed to beckon to me.

The organizers stated with absolute confidence that the exhibition included some of the 'most individual, inventive and eloquent small sculptures that have ever been produced,' but they belong to a

1
277

convention that Henry Moore once called 'a digression from the main world tradition of sculpture,' and although it is possible that Moore himself no longer adheres 'without reserve' to this view, his greatest works—and in particular the small pre-war carvings—make no concessions.

These Italian bronzes reflect the more obvious aspects of a classical revival, and bring the cult of the nude into a somewhat theatrical alliance with scientific enquiry. As demonstrations of anatomical knowledge and studies of the body in action they have immense virtuosity, and some of the single figures have a deliciously light-treading elegance. This is a demonstrative virtue in some of the Mercury figures, and is at its most poetic in the *Arion*, 1, by the fifteenth-century Florentine sculptor Bertoldo. Arion was a semi-mythical poet who was supposed to have created the dithyramb as a literary form, and Bertoldo's figure splendidly exemplifies a measured ecstasy. When there is more than one figure—the statuette of a negro boy holding a shell and mounted on a goat, 2, by Severo da Ravenna (active in Padua c. 1500) is a comparatively simple instance—the quality of elegance has to be read bit by bit, for it is missing from the general effect. The subject of this particular piece has a 'made-up' look, but nearly all of them have their literary side, and the catalogue, which was not ready on press day, may have revealed an iconographical significance of which I am unaware.

But even the finest of these statuettes seem singularly lacking in the quality we call 'presence.' It isn't due to their size: some of the most compelling sculpture in the world can be held in the palm of the hand. I think it's because all the figures are giving performances—holding their poses like dancers or demonstrating their vitality like athletes—and it's not really surprising that by the end of the seventeenth century the figures were engaged in farcical balancing acts and serving rather sickening feats of craftsmanship. One such 'infinitely ingenious group,' a 'Homage to Sculpture' by the Venetian artist Francesco Bertos, included an amusing example of the iconographical confusion that can arise from an uncritical regard for anatomical science: at the foot of this curious pile, a naked sculptor is completing an effigy of a naked woman, and since the only difference between them is that of gender, we are confronted by a representation of a grave case of assault—man knocks down woman and beats her to death with a hammer. All the same, the sculptor's contemporaries were not affected

by such anachronisms, and it was a little disconcerting to be told that his work was especially admired by foreign visitors, for I, too, can perhaps be written off as just another foreign visitor, deprived of en-



2



3

thusiasm by a change in the current of taste.

Certainly my particular interest in two of the bronzes reproduced here can be attributed to a mere change of taste, for it was aroused by variations in their surface textures which provided a relief from the glitter of the approved standard finish. In the case of Bertoldo's 'Arion,' already mentioned, the rough surface of the top half of the figure appears to have been caused by fire damage and is evidently unintended, but it lends the figure a pathos of which one would not approve if it were conveyed by a deliberately contrived facial expression or bodily stance but which becomes satisfactory when it is produced by a knocked-about look. In the case of Giovanni Bologna's 'The Dwarf Morgante mounted on a Dragon,' 3, which was originally part of a small fountain, the contrast between the high glitter of the dwarf and the unpolished surface of the dragon is a deliberately dramatic effect, and here again the rougher surface of the dragon seems to work on one's sympathies.



4

Along with the creature's queer flatness and its distraught air, its rough texture gives it a gentle, harmless look, and compels one to take sides against the plump, shiny bully of a dwarf; this is probably the direct opposite of its effect on Giovanni Bologna's contemporaries.

In the fifteenth and sixteenth centuries, the private collectors who bought these bronzes were also collectors of Roman antiquities. Today, the people who buy modern sculpture usually have some primitive and archaic pieces to put beside them. But neither the Renaissance bronzes nor the modern works can be confused with the things that influenced them, and although aesthetically the classicizing sculptors of the Renaissance and the archaizing sculptors of the twentieth century have little in common, they share a general concept of freedom and in their narrow open-mindedness testify to Pico

della Mirandola's revolutionary belief in the right of every man to grow and develop in his own way.

The exhibition of Henry Moore's pre-war carvings in wood and stone recently held at the New London Gallery contained some of the finest and most imaginative sculpture that has been created in our century. It was mounted with a due sense of the importance of the occasion, and modern sculpture has never been more beautifully displayed in a London gallery.

In a graceful and well-illustrated essay which accompanied the exhibition, John Russell recalled that these are the carvings that once seemed to many people to be 'barbarous, repugnant and unintelligible,' but his own tendency to play down the influence of pre-Columbian art is a swing to the other extreme, and I think that he could have chosen a more appropriate occasion on which to insist on Moore's

'love and sympathy' for Italian art. The fact that he has found the very words in one of Moore's own texts is neither here nor there, for the exhibition was devoted to a period in which his work was intransigently opposed to the realistic anatomies of the Renaissance and profoundly influenced by pre-Columbian and West African sculpture. The finest of these carvings are without precedent, but it's obvious that the powerful stillness and inexhaustible presence of a work like 'Figure,' 4, carved out of Corsehill stone in 1933-34, could never have arisen from the example of Italian sculpture.

The exhibition at the Grosvenor Gallery of sculpture and sculpto-paintings made by Alexander Archipenko between 1909 and 1921 was supported and at the same time put firmly in its place by the presence of some first-rate paintings by other early contributors to the modern movement such as Malevich, Chirico and Severini.

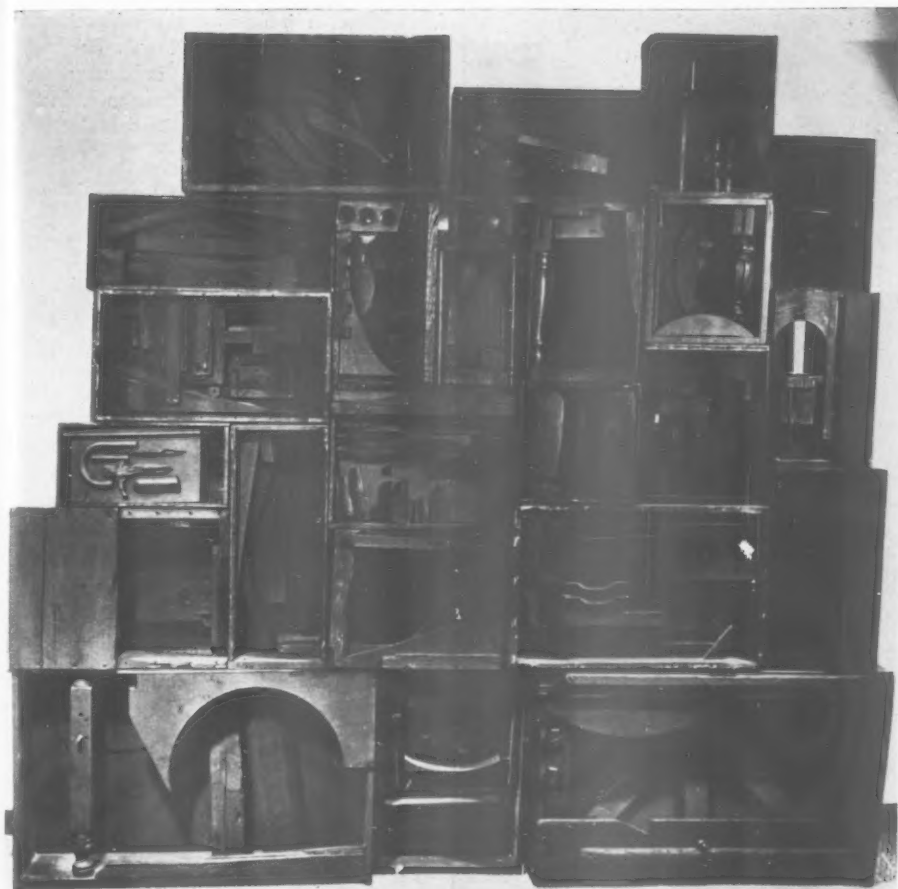
Archipenko's prim cubo-purist approach to the still life in his sculpto-paintings, 5, has left them with no more than a period charm. He was one of the first sculptors to construct stand-ins for the human figure out of purely geometrical elements, but



5

6





7 these too are now among the lavender and old lace of the movement. His best works are in closer contact with the human figure, but either his imagination was not powerful enough to free him from his academic training or he was at heart an anatomical realist, for although a characteristic example like the bronze of a pregnant woman made in 1911, 6, has grace and refinement, the mannered cubist faceting is a kind of light veil cast over a perfectly straightforward study of the model.

A notable miscellany of twentieth-century sculpture and drawings was recently on view at the Hanover Gallery, and a formidable group of twentieth-century paintings at Marlborough Fine Art. The Hanover selection included an elaborate, soot-black relief, 7, by the American sculptor Louise Nevelson, whose work has not previously been seen in

London. It comprises a number of wooden units which can be assembled in various ways. It looks rather like a Welsh dresser for a wizard's kitchen, but there are compensations for the lack of distinction in its overall shape. Nevelson makes remarkably effective compositions, with a wide range of expressiveness, out of the simple elements which she fastens into her boxes, and makes subtle and fascinating play with interior depth by bringing some of the compositions close to the surface and leaving others in an obscurity which one hesitates to investigate. One hopes that this solitary example heralds a one-man show of her work.

The Marlborough exhibition included one of the most impressive of Kurt Schwitters's 'merz' compositions, constructed in 1919, 8. The bits of junk and rubbish of which it is composed are painted in unusually rich and sombre colours; they give the picture spaciousness and dignity and lend the rubbish a kind of sumptuousness. It's as magical in its way as the story of Cinderella. There was also a macabrely sensual 'Peinture gris,' 9, by Antonio Tapies, executed four years ago. The grey paste adumbrates an elementary male torso, and a fearsome lump of the same grey matter which has coagulated in the lower half of the picture has seemingly broken through the wall of the stomach.

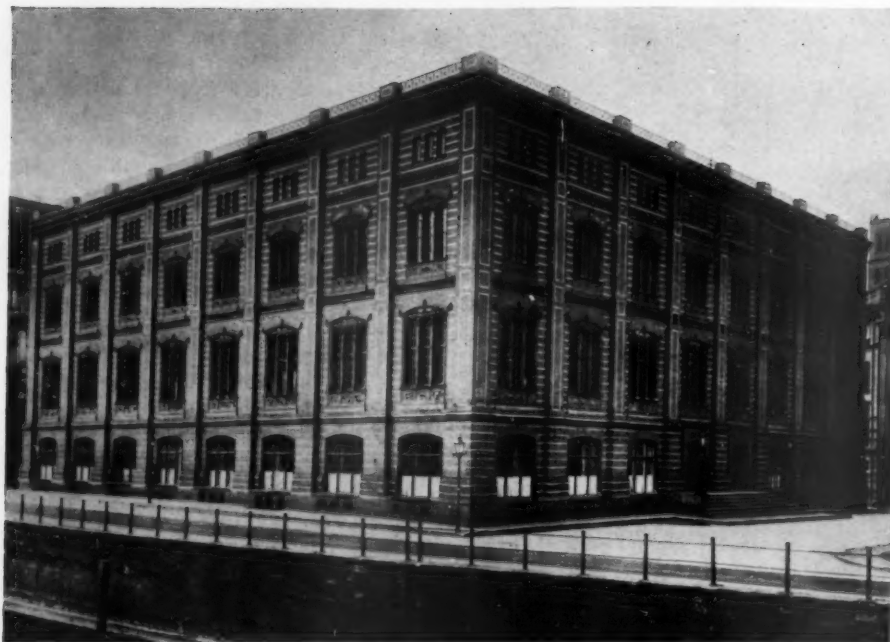


10 One has the impression that an alien organism has been using the torso as a place of hibernation and is now making its catastrophic exit.

A recent exhibition at Reading Museum and Art Gallery of paintings and sculpture by professional artists living in the vicinity included a remarkable series of paintings by Anne Bruce, devoted to a single subject. The subject is a cherry orchard in blossom, 10, but is often no more than a phantasmal ingredient of the paint. Her feeling for paint as a substance is quite exceptional. It's not that she splashes it around or lays it on thick; it's simply that she has the means, rare enough in this country, of covering the canvas with a softly glowing integument, and of giving large, almost featureless areas of colour a life of their own.

Robert Melville



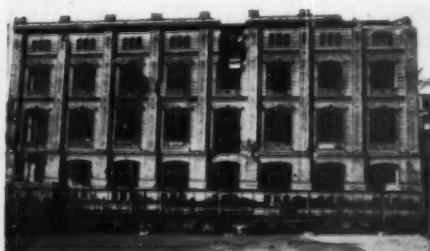


HISTORY

SCHINKEL

Schinkel is the only Neo-Grecian architect on the Continent whose name is familiar in this country, and rightly so; for he is the greatest. A measure of his greatness is the far less familiar fact that towards the end of his life, in the 1830's, for certain types of task, he turned away from Grecian inspiration towards a functionalism essentially independent of the past. His designs for a warehouse and public library were never executed, but his Bauakademie, 1, was and remains the most important example in the Europe of his age of monumental, officially accepted, functionalism.

If one says it remains, it must be added that it remains severely damaged towards the end of the war and never repaired, 2.



That it could be repaired has never been denied, but the East German authorities have decided not to repair it. Their argument, as put forward in a letter from the City Architect to Professor Pevsner, which Professor Pevsner published in *The Guardian* of June 1, 1961, is that the building in its present position would be a

nuisance to the replanning of the centre of Berlin. No more is promised than to re-erect the façade in another place. That would be something; for the façade with its brick pilaster strips, its even fenestration of tripartite windows with a little North Italian Quattrocento trim, and its flat roof, is impressive enough. But can we trust the promise? The Royal Palace of about 1700 with all its splendid work by Schlüter—the other greatest Prussian architect—was razed to the ground for no good reason. So was the Stadtschloss at Potsdam and, also at Potsdam, parts of Rauch's celebrated monument to Frederick the Great are stored somewhere against re-erection at an unspecified moment. The finest square of Berlin, the one with Schinkel's theatre and the two identical domed churches by Gontard, stands in as ruinous a state as fifteen years ago and may soon, if nothing happens, be past salvation. Besides, it is surely an admission of defeat on the part of twentieth-century planners if they have to clear away key monuments of the past because they need a *tabula rasa* to do well. It may be too much to hope that the East German authorities will re-think their decision. So nothing remains to be done than to record it with dismay.

HOUSE TRADITIONS IN MALAYA

One can enumerate, in Malaya, several successive traditions in dwelling and house building. In historical order they are the tribal house, the Malay house, the Dutch house, the Chinese house, and the British colonial house. The Malay house itself appears in different forms, having been subjected to influences

from Sumatra in the region of Malacca and from Siam in the north and east. One may discount the Portuguese influence; the Portuguese have left only one monument witnessing to their time of occupation, a small city gate in Malacca.

Tribal houses

The long-house is rare, and does not reach the large size of Borneo long-houses. The type most frequently seen in the country is a one-family house forming the Sakkai villages of tourist fame, which stand so conveniently near the road leading into the hills of Perak. In the best examples, the structure is entirely of bamboo, but mostly, now, one sees a bamboo structure with an admixture of timber. The bamboo members are lashed together with bamboo slings, or a thinner pole is passed through an opening made in a bigger one. The wall is made of panels of split bamboo often woven into a pattern, 1. The steep roof is covered with 'attap'—mats made of interwoven palm-leaves fixed to thin bamboo poles. These mats are rolled and placed on the ridge when the carcass of the house is finished. The roll is then opened, and the attap mat thunders down the rafters. It is tied from inside to the rafters with bamboo slings. The roof shown in 2 is a good example, though it is partly built of timber. It also shows the gable triangle above the truncated hip, a feature common throughout East Asia. Often these gable triangles are made of several tilted planes,



like large louveres, and in this form they help to ventilate the house. The roof is always open; there is no ceiling.

The attap roof breathes, though, if well made, it is also waterproof, being so steeply pitched. The panelled wall also breathes. The floor itself, invariably raised above the ground on stilts and made of split bamboo, lets in air from below. Windows are possibly a comparatively modern feature in this kind of house. It is possible to read in the light filtering through the slots in the walls, and this subdued light is very agreeable. In houses in Trengganu quite delicate weaving is done in rooms whose walls are made of the same material. 3 shows the floor-construction. The timber post with a bracket supporting the cross-beam is certainly not of traditional construction, however. In every good Eastern



structure, the crossbeam passes through a slot in the post. All members are remarkably thin, the floor in particular being quite springy, yet the houses are structurally enduring.

Malay houses

There is a multitude of types. Two only are illustrated here: a type showing influence from Sumatra, found in the region of Malacca, and a type common on the east coast. The Malacca house is most convincing in its clear articulation of the different parts of the plan. These are: a verandah-like entrance, often projecting beyond both ends of the house, the main room or rooms—there may be two—standing on a slightly higher level, and at the back, reached by a connecting passage which has its own back ladder, the kitchen.

Approaching Malacca from the north, along the coastal road, one passes through rice-growing village after village with houses of this type. Here is one of the rare parts of the Federation which is peasant country—very different from the large and regular rubber forest or the shapeless jungle. The road passes over rough, shrubby hills and again and again dips into these narrow rice-valleys. The core of the rice-village is frequently a short street of



Chinese shop-houses, 4. The Malay peasants' houses form long ribbons along the road, or skirting the hills at the edge of the valley, stretch between one Chinese shopping-centre and the next, which is sometimes ten miles away.

Each house stands in a neat plot or garden, with a water-buffalo or two tethered to a tree in a little dip, with a grass plot and, quite often, an array of plants in flower-pots all round the verandah, and chickens, goats and some tools and stores in the space underneath the raised floor. Entering, one finds the main part of the house, which is often quite large, subdivided by differences of level and also by low partitions or by shelves forming partition. The light is subdued and cool, and these freely-planned rooms under their steep, dark roofs have a quality that appeals to the architects of our generation. Equally convincing are the thin, widely spaced members framing these houses, in particular the elegant verandahs, whose propor-

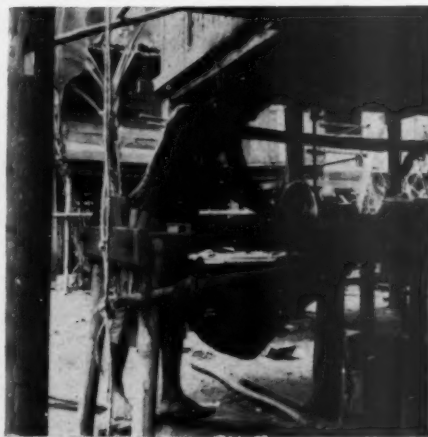
tions—strictly modular, by the way—are often very pleasing.

Some of these houses are as much as 150 years old; on the other hand, they are still being built, though in the new houses the less steep parts of the roof are no longer covered with attap, but with corrugated iron or asbestos as in 5. 6 is a typical house standing just outside Malacca. The floor construction is clearly shown in the verandah: the posts stand on stone blocks, or blocks of a traditional kind of concrete



made of honey, crushed egg-shells and 5 limestone; a long lintol-piece is passed through the posts at about 3 ft. above the





stone pads, and the crossbeam also passes through the posts but does not rest on these lintols. These crossbeams support the actual floor framing. The differences of level are sometimes obtained by placing the joists of the verandah floor directly on the lintol.

7 shows quite a large and new house from the northern end of the coast road, 50 miles from Malacca. The three parts of the house are clearly shown, as are the inclined breathing 'louvres' in the main gable. 8 and 9 show a house at Lubbok China, about 25 miles north of Malacca. The verandah here is particularly well proportioned, and it is interesting that in this house the out-buildings under the lean-to roof behind the kitchen are clad with split bamboo and built of unsquared timbers. The projection under the lean-to eaves is a kitchen shelf.

The type of house built on the east coast (Kuala Trengganu) is very different. It has a small, open entrance-porch at a considerably lower level than the house itself, 10, which is lifted high above the ground with the undercroft partly closed in and used as a workshop, 11 and 12. The walls, hardly interrupted by openings, are made of bamboo woven into coloured patterns. The plan is less clearly articulated than in the Malacca house, but the pattern of the walls is often fascinating. Such a pattern is shown in 13 in the bamboo fence in the foreground.

Malay houses are often dismantled and re-erected somewhere else. Peter Morley, in his writings about Malay houses, mentions quite an old house which has shifted place twice.

Chinese houses

Malay houses are typically tropical. Chinese houses, on the other hand, have been imported from a different region. They stand on the ground, and their plan develops in depth from the street around a series of courtyards. They are essentially



town houses, a type which neither the aborigines nor the Malays had developed. Those earlier intruders, the Dutch, had developed a town house, a few surviving specimens of which can be seen in Malacca. Significantly this is also a courtyard house.

7, 8, 9

10, 11, 12, 13



It is in Malacca, 14, that one finds the best surviving Chinese town houses in the true tradition. Everywhere else, one has to visit temples in order to see houses in the Chinese courtyard tradition, the Buddhist Chinese temple being essentially a courtyard house. 15 shows three temples in a row in Malacca.

Perhaps the only point of contact between these Chinese structures and the native houses of the country is that in the Chinese house, also, timber predominates, though it is combined with brick walls. But the very heavy structure of Chinese timber roofs is no counterpart to the light roofs built by the earlier inhabitants. The Chinese shop-house, already illustrated in 4, is an abbreviation of the courtyard house. In its normal two-storey form the ground floor is occupied by a deep shop behind an arcade, with stores at the back, and the first floor forms an equally deep caravanserai, under the large Chinese roof with the ventilating lantern over the ridge.

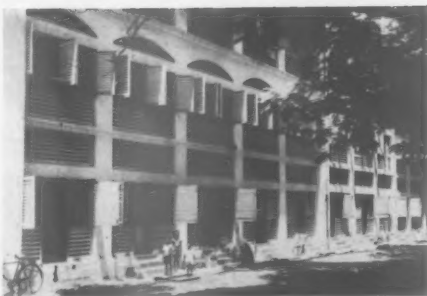


Any number of cubicles are partitioned off underneath this common roof, and any number of people are found living there. The court is reduced to a backyard.

The shop-houses are built of brick, with roofs covered with the fine Chinese pantiles. Their decoration, such as it is, is frankly European, with pilasters marking the party walls. They are plastered and painted light green, ochre, yellow—colours somehow too light for the glare of Malaya. The native timber, bamboo and attap provide a more fitting colour-scheme.

British colonial houses

This last tradition is international: a colonial house in Malaya hardly differs from one in Ceylon or in British Africa. But it is a *tropical* type, and is therefore more akin to the aborigine and Malay house than to the Chinese. It is lifted off the ground and it makes extensive use of timber, though structurally mainly in the verandahs which, wherever possible, surround the house on all sides. The core is



of brick. It has a wide roof overhang. 16, a resthouse, shows these verandahs, of generous depth (8 ft. is normal) which are themselves protected by 'shiks' or bamboo roller-shutters. 17 also shows widely projecting eaves supported by struts and the open, airy structure of the verandah and the verandah-room projecting over the drive. 18 is another Government rest-house and 19 a large block of early flats in Kuala Lumpur, with a front wholly without glass. If anything, these colonial houses are too well protected against sun and glare. Often a truly Victorian gloom pervades their vast and wasteful spaces.

J. Posener

ULSTER ECCENTRIC

John Cary designed and built his *Temple of Liberty, Learning and Select Amusement at Toomebridge in Northern Ireland in the nineteenth century*, and he filled it with stained glass



and busts of 'men of the world.' It was a free-thinking temple and a bold gesture in a country which feels so bitterly about religious schisms. The place, in fact, was deliberately allowed to fall into ruin, 1, after its architect's death.

However, additions Cary made to his neighbouring residence still stand, the whorled candy gateposts he patterned to make the eyes spin and his fancy ironwork with lions' heads and serpent hair and cats, 2,3. One can, alas, only faintly trace some of the thaumaturgic sigils which he pressed into the ground with pebbles. The village also still displays his 'Fountain of Liberty: 1860,' an eight-sided pyramid with a hand on top holding a dedication plate 4, 5.



3



4



8

Then there is the fabulous apparition of the tomb Cary designed as a library of tablets relating doubtful stories about himself and including an advertisement for *Burke's Landed Gentry*, and all surmounted with a stone vesicle supporting cabalistic insignia and surrounded by railings composed of hands clasping arms which grasp hands, etc., 6.

The tomb alone is sufficient reward for any lover of the curious who cares to make a pilgrimage to Toomebridge, a splendid invitation to suspend rational criticism; and certainly the social historian will find

it worth his while to analyse the confection of legends which are told locally about the creator and inhabitant of the tomb, for the stories vary significantly at different social levels.

It seems to be generally held, however, that Cary was over life-size. For instance, most people admit that he blew up with dynamite the shelter of a watchman who reported the eccentric for walking unlawfully on the railway lines. The watchman had to shiver for many nights in the winter cold.

Oswell Blakeston



6

PLANTS

WEEDS: 1, SPREADERS*

From the architect's point of view most herbaceous plants are no good because they diminish rather than increase with the neglect they get.

Many 'garden' plants are kicked about before they have a chance to establish or just pine for lack of cultivation on verges, in courtyards, planting areas, spaces between buildings. (Gardens proper don't come into it, gardens implying the presence of a gardener.) What architects should be looking for are plants that flourish by neglect.

Oughtn't they to be thinking more about the irrepressible virtues of weeds, and picking out the plants with a weedy habit? I don't want to enter into a discussion about

what does or does not constitute a weed. This is a purely subjective matter. (They aren't just plants that normally grow wild; they are plants which manifest a wild and disorderly habit; cf. 'widow's weeds' and Ophelia's 'weedy trophies.') Weeds are simply trying to take over, natural improvisers, enterprising colonists. They do this mainly in two ways: one by root invasion (nettles, couch-grass, convolvulus) and the other by self-seeding (poppies, willowherb, thistles, river balsam, forget-me-nots.) Also, less often, by surface runners (periwinkle).

What about entertaining more weeds? Some plants have such close-knit root systems that they overwhelm everything else. If a specific limit is set to their intruding habit (confined by man-made paths or brickwork), their pernicious quality becomes a virtue. The common herbaceous perennial white daisy, *Chrysanthemum maximum*, 1, of Pyrenean origin, is an example. It allows no space for rival weeds. It thrives in poor and shallow soil. It spreads, but it doesn't jump about much.

*A second category of weeds—peripatetic—will be dealt with next month. The series of articles, of which this is the eighth, describe outdoor plants of interest to architects for use in close relation to buildings.



Its lovely 3 ft. July daisy flowers sprawl elegantly when no one stakes them.

Lilies of the valley (*Convallaria majalis*), 2, have a similar invasive habit, a creeping rootstock. They have entirely colonized the damp woods round Chantilly. In this country they make a dense ground cover in semi-woodland even on light sand. A good leafy moist loam suits them better. Where there are no trees, they need north or north-east wall-shade. They are best planted in early autumn, the divided crowns being set an inch below ground, four or five inches apart. Fortin's Giant is the best flowering variety.

A beautiful pernicious plant is the common bindweed *Calystegia sylvestris* ('Convolvulus'), 3. Its roots are as persistent as ground elder. In the deserts of East London going out to dockland the bindweed laces up the chainlink fencing on new housing estates where no other plant attempts to grow. The white bell-flowers in July, August, the heart shaped leaves, the rampant spiral growth are a burst of song in the tarmac wilderness. This of course is not listed in catalogues. To keep bindweed within bounds one might sink some kind of vertical defence, two feet deep, say close-meshed sheets of expanded metal or a large tin drum.

A less obvious but rampant sprawler above and below ground is the common hop, 4. It is quite as beautiful in its way as the vine, but doesn't need oxblood or elaborate soil conditions. Provide it with a fence, paling, wires or metal trellis to twist up. Officially called *Humulus Lupulus* (syn. *H. luteus*), seed can be had from Thompson & Morgan, Ipswich, and roots from



2



3



4



Hillier. The twining shoots appear in early spring, it dies down in autumn. The hop-flowers dry on the plant in a delicate desiccated way. If it spreads too much, haul it up by its long ropelike roots.

There is a 'genuine' weed I notice on railway cuttings, often in stiff soils, a kind of giant's coltsfoot, called *Tussilago farfara*, 5. It is a powerful runner with creeping rhizomes, and in moist positions the leaves attain gigantic size, sage coloured, cobwebby, silvery and downy underneath. *T. farfara variegata* is blotched and margined with creamy white. It occurs a lot on roadsides in County Wicklow along with mats of ivy, hogweed and meadow rue. It is very fine associated with common ferns.

I would like also to draw attention to what I suspect must be a Japanese weed, *Sedum spectabile*, 6. Its urge to survive is abnormal. A fleshy plant of glaucous hue, it endures extremes of drought, flowers pink in late summer and is an excellent plant for absentee pot cultivation.

Patience Gray

OUTRAGE

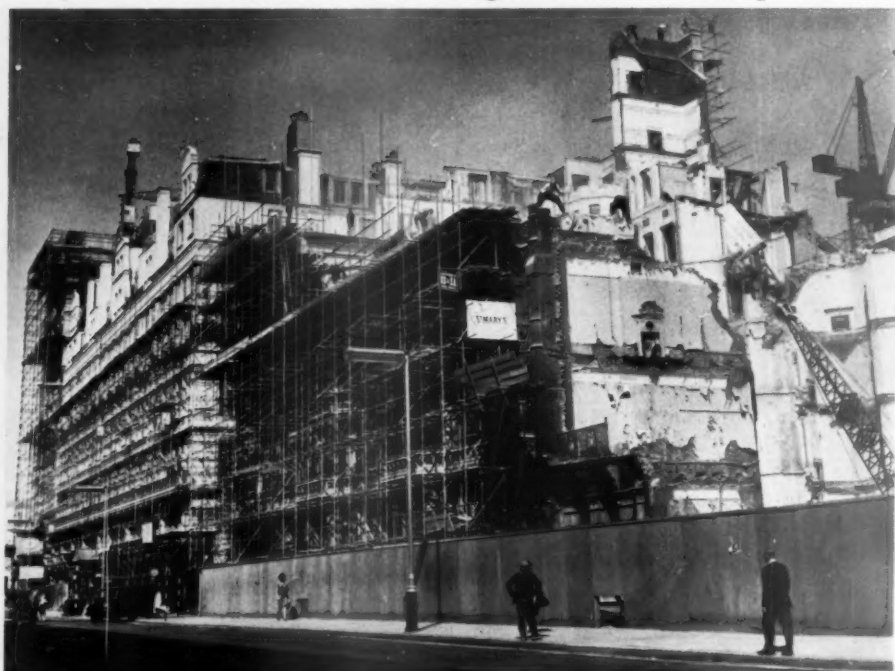
NO PLAN FOR VICTORIA

What sort of a picture of Westminster Abbey or the Houses of Parliament do all the tourists, perched precariously with their cameras on a traffic island, show on their home screens back in the New World? 'Those lovely London buses—and that's a taxi-cab, room for everything except a hat... the big tower you can just see is the Abbey... and that's a building site, everywhere's still being rebuilt after war damage.'

Everywhere is certainly being rebuilt—but not after bomb damage. For now that the City is virtually replete, Victoria has become, even more noticeably than the West End, the happy hunting ground of the developers. Watney's old brewery is being replaced by offices; there seems to be hardly a block in Victoria Street that is

not the subject of a planning application: and at Queen Anne's Mansions and along Petty France the buildings may soon topple. On Millbank, too, no distance away, the new Vickers tower looks across at the serried ranks of the Albert Embankment and two large empty spaces on either side of the southern end of Vauxhall Bridge await the pile-drivers. A new City—dead after dark—is being born at the opposite end of the historic axis running between the City and the Court, between Commerce and Parliament.

The planning authority—the London County Council—seem to have been caught by surprise. The relatively new and large buildings in Victoria Street were not supposedly ready for profitable redevelopment yet, and their zoning as offices in the 1951 Plan was only meant to be a recognition of this fact. Now the somewhat dubious use of 3rd Schedule Rights is enabling developers to build, almost as a right, modern office buildings with much



1, old offices being demolished in Victoria Street and, 2, new offices going up. 3, development on the old Watney's brewery site behind Victoria Street.



A NEW 'CRACKLE' TILE

at no extra cost!

Devon now offer a new glazed tile with a natural crackle pattern, that costs no more than plain coloured tiles. The pattern form has a directional flow which can be used horizontally or vertically. There is a wide choice of background colours and it offers exciting possibilities in design for both indoor and outdoor work. Available in all standard sizes of tiles (those shown are 6"), round edge and fittings; $\frac{1}{4}$ ", $\frac{3}{8}$ " & $\frac{5}{8}$ " thick. The $\frac{5}{8}$ " tile is suitable for exteriors.

**DEVON
WALL
TILES**

Made by Candy & Company Limited, the sole manufacturers of the Devon Fire. Write for further information and catalogue to: Dept. R9 Candy & Co. Ltd., Newton Abbot, Devon.

whatever the load

STAND FIRM ON ...

WEST'S SHELL PILES

THE FOUNDATION OF STABILITY

Foundations incorporating West's Shell Piles are firm and rigid — for two main reasons. Firstly, the pre-cast sectional outer shell is driven to a positive set in the load-bearing stratum. Secondly, the concrete core is cast *in-situ* after driving is completed. The consolidating effect of the positively driven pile is therefore retained but there is no fatigue in the pile core.

Please write for our latest publications



**WEST'S PILING AND CONSTRUCTION
COMPANY LIMITED**

FOUNDATION SPECIALISTS

BATH ROAD, HARMONDSWORTH, MIDDX.

TEL. SKYPORT 5222 TELEX: 21819 WESTPILE, LONDON

Branches in London, Birmingham, Manchester, Newark, Glasgow
Australasia: West's Shell Piling (A'sia) Pty. Ltd., Melbourne, Sydney,
Adelaide & Wellington, N.Z.
France: Carbonisation Entreprise et Ceramique, Paris

A MEMBER OF WEST'S GROUP OF INDUSTRIES

London County Council Flats at Bethnal Green, E2, supported by 14½" diameter West's Shell Piles with individual pile loadings of 40 tons.



A10

SKILL

THE NEW IES CODE

The new Illuminating Engineering Society Code has caused some dismay by its acceptance of the principle that it is not possible to obtain enough light in places of work from daylight alone. In this article Dr. R. G. Hopkinson of the Building Research Station discusses the ideas behind the Code and the situation it seeks to remedy. This article is published by permission of the Director of the Building Research Station.

Great changes have taken place in lighting technology during quite a brief space of time, as a comparison of the lighting provided in buildings of the last two or three years with those of the immediate post-war period will reveal. While the worst lighting of to-day is quite as bad as the worst lighting of the late 1940's, the best shows a remarkable improvement, particularly in freedom from glare and visual discomfort. The over-bright opal spheres of the earlier period were tolerated because they gave high levels of light, but they were uncomfortable to look at. Good modern lighting, shielded from direct view, is a considerable advance in the right direction. In daylighting, improvements have also been made, but the fully glazed unscreened curtain wall is a retrograde step as everyone who has experienced working in fully glazed rooms on bright days knows to his acute discomfort. Just over two years ago the Illuminating Engineering Society set itself the task of studying new lighting methods with the purpose of recommending the best of good modern practice and condemning the worst.

The result of this two years' work is embodied in the new edition of the well-known IES Code. This edition goes further than ever before to express in figures just those subjective factors, such as glare, which the architect has so often accused the engineer of neglecting, while it still continues to give detailed guidance on levels of lighting for specific tasks. This new edition has received a warm welcome from the lighting profession, both in the engineering and architectural fields, but the welcome has often been coupled with requests for further guidance on what it all means.

Higher lighting levels

The really big change which has

come over the lighting situation in work places is that there are now demands for much higher rates of production which in turn demand rapid and accurate visual work. These demands have led to the need for lighting levels much higher than those which were considered adequate even just 15 years ago. These levels cannot normally be provided by daylight alone, and this awkward fact must be faced. In all work places of the future, lighting will be achieved by a combination of good daylighting and proper supplementary artificial lighting. It would be a disaster for good building if architects failed to realize this quickly and instead left the problem of the lighting of the environment to others who had less visual imagination and sensitivity.

Those who were responsible for drafting the present edition of the IES Code faced the fact that there have been changes in our outlook and social structure during the past 10 years which have been echoed in developments in lighting technology. Not only are work people asked to produce more, but they in turn are used to a higher standard of living at home and they therefore demand a much higher standard of comfort and well-being in their surroundings at work than they have had hitherto. People will not work in a dull or dingy factory or office. Even if they as individuals may be prepared to do so, their Trade Unions will see to it that proper amenities are provided. We have therefore a changed situation. Management demands good lighting to speed production, and staff demand good lighting for amenity and visual comfort.

The IES Code deals essentially with the lighting of work places, and does not attempt for the moment to advise on the lighting of places of entertainment, of exhibitions, and of

other environments where aesthetic or social factors are of greater importance. When lighting a work place, the first thing that needs to be considered is the work and the worker. This is quite obvious, but it is so often forgotten. The worker must be able to see his work easily without visual strain at the moment and without liability to visual fatigue in the long run. He also needs to feel that the lighting is good, and not merely to be told that it is good simply because the pointer of an 'electric meter' goes up to a given mark. If he is able to express himself clearly, his requirements should be taken into account. If he says that he needs individual light on his work he should be given it provided there is good reason to believe on fundamental grounds that he is right. He should not be fobbed off with a general lighting scheme simply because this is easier for the engineer to install. The new edition of the IES Code has recognized this and much greater emphasis is now put on the quality aspect of lighting than ever before. These quality aspects have, however, been so expressed that figures can be put on them so that an engineer and architect working together know precisely what to do in order to achieve the lighting demands put upon them.

During the past few years there have been advances in lighting technology which have come in time to match the demands of our changed social structure. In the first place the development of more efficient light sources, particularly the fluorescent lamp (and now a new type of filament lamp, the 'iodine-cycle' lamp of long life and high efficiency is coming along) has enabled high levels of illumination to be provided at a considerably less cost than was possible a few years ago. In the second place, research work has led to means of

prescribing ways of eliminating glare from lighting installations without increasing their cost. The third and possibly the most important development is the study of adaptation and brightness balance which has led to recommendations for the supplementing of inadequate daylight by artificial light of satisfactory quantity and quality so that work can go on at high levels of illumination with freedom from visual discomfort throughout the working day.

The visual field

In essence, then, the new IES Code develops its thesis by considering the whole visual field as 'a pleasing environment conducive to interest and a sense of well-being.' This visual field is divided up into four main components, the work itself, the immediate surround to the work, the general environment, and the sources of light, whether these are artificial lighting fittings or windows. Each of these separate components is treated individually and then together as a whole.

The work must be illuminated to a level which permits the worker to operate at a high degree of visual efficiency. The Code does not specify lighting levels which would result in an all-round hundred per cent visual efficiency, for the simple reason that the economic situation of the country at the moment cannot support levels of this order. There may also be very good reasons why levels of this order will never be prescribed, because there is evidence that visual discomfort from excessive brightness of the task itself may then intervene. Our eyes are not made for perfect vision without some degree of discomfort. We are indeed capable of a very high degree of visual performance for short periods at a time but

[continued on page 292]

PARKER-KNOLL comfort

at special contract prices



'GAVOTTE' Chair £21.10.0. (Suite of 3 seater settee and two chairs £37).

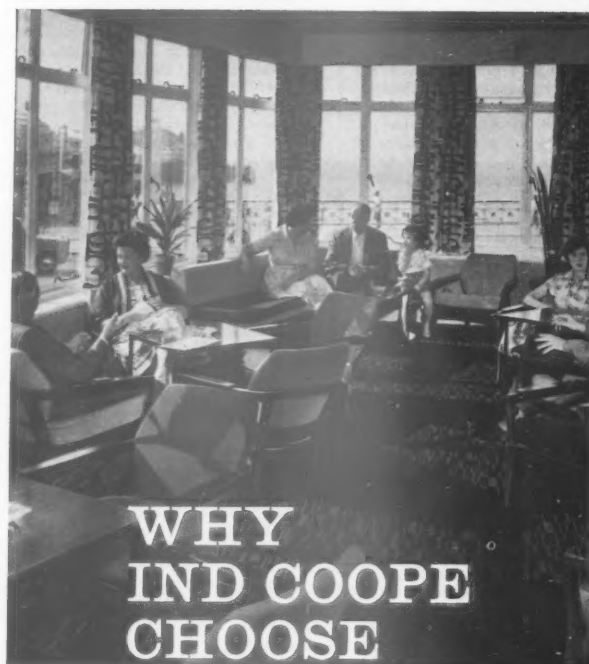
Those responsible for the interior decoration and furnishing of hotels, restaurants, clubs, hospitals, government departments, etc., will be glad to know that Parker-Knoll chairs and settees are frequently available at special contract prices.

PARKER-KNOLL

Please write for details to:

PARKER-KNOLL LTD., CONTRACT DEPT., HIGH WYCOMBE, BUCKS.
Showrooms: LONDON: 19-20 Berners Street, Oxford Street, W.1
MANCHESTER: 33 King St. BRISTOL: 35 Park St. BIRMINGHAM: 43 Temple St.
HIGH WYCOMBE. The Courtyard, Frogmoor.

CVS-132



WHY IND COOPE CHOOSE MILIUM INSULATED LININGS

All over the world, curtains lined with Milium are giving year round comfort, lasting beauty and extra economy in Hotels, Restaurants and Homes. Milium insulated cotton sateen lining keeps heat where you want it. The thin coating of aluminium on the back reflects room warmth *inwards* in cold weather and sun's rays *outwards* in hot weather. It virtually eliminates curtain fading.



Milium linings are chosen by Ind Coope Hotels for the Royal Albion at Brighton and many of their other fine hotels throughout Great Britain.



For all details contact:
Milium 24 Grosvenor Street London W1
Telephone MAYFAIR 9111

IND COOPE HOTELS



* Registered trade mark of Deering Milliken Inc USA

SKILL

continued from page 290] not necessarily throughout the whole of a working day. This is a fact which has not generally been realized but it is one which the IES Code has taken into account in its recommendations, and this itself is a major step forward. It may not be relevant, but it is instructive to point out that some of us can run at 25 miles per hour for a very short sprint, but even the best of us has to slow down to 15 miles per hour on a mile run.

P.S.A.L.I. a necessity

As in the previous Code, the levels of lighting necessary for different visual tasks are tabulated in a list of different occupations. These levels of illumination apply equally to daylight as to artificial light, for they are computed as before from a knowledge of the critical size of detail and the critical contrast in the visual task. A rather different basis of computation has been used in this new edition. The level of visual performance which is now aimed at is higher than before, to contend with the new demands for higher visual efficiency. For this reason the levels of illumination are in some cases substantially greater than those in the previous edition of the Code. The net result, however, is that these levels of illumination are no longer easily attainable by daylight without introducing excessive sky glare.

We, therefore, have to face the situation that it is no longer possible to relate the prescribed levels of illumination with corresponding daylight factors as was done in previous editions. It is this apparent divorce from daylight factor which seems to have occasioned so much dismay on the part of some architects, including the *Architects' Journal* reviewer*. This is surprising. One would have expected a real architect to welcome the freedom which he now has to think of the lighting of a building as a co-ordinated whole, rather than as something tied up entirely with the windows. The windows have, after all, to function for other purposes, particularly for ventilation, and consideration of these other functions is often inimical to good lighting.

What has now been done is to point out that good lighting demands a certain basic level of daylight for amenity and character, as well as for basic illumination, and that this level of daylight is determined by the kind of environment rather than by the specific visual tasks which are going to be done in the building. A simple table giving these basic daylight factors in terms of typical environments is all that the Code gives as regards specific recommendations on daylight level. On the other hand, a great part of the Code is now concerned with quality of lighting. While not setting out to be a text-book, the Code shows that qualitative factors such as freedom from excessive glare, the play of light in a room and its effect on modelling, and the colour rendering of light sources, can all be handled quantitatively by the engineer working in collaboration with the architect. Techniques exist and are at the architect's disposal.

The Code now suggests that the working illumination inside a building will generally be a combination of good daylight together with supplementary artificial light, the amount of which being determined by the nature of the work and by the visible daylight as seen from the working area. The principles of permanent supplementary lighting laid down at the Building Research Station are

followed in the IES Code where it is pointed out that the design of lighting integrated in this way is a job for the architect working in collaboration with a qualified lighting engineer. This means that the architect is now expected to give as much care and thought to the artificial lighting as he has previously done to the daylighting. It offers scope and opportunity to the good architect which he has never had before. This is progress.

The Glare Index

The section of the Code dealing with the control of glare is entirely new, and differs from all previous attempts to handle this difficult subject. Previous recommendations have always set upper limits to the brightness of the light sources as seen from the position of the worker, but the disadvantage of this is that small sources of high brightness which, when used properly, can offer stimulation and lend interest to a building are automatically excluded by the upper brightness limitations. The present method avoids this by controlling glare directly in terms of a function called the *Glare Index*.

Methods are given for computing the Glare Index for symmetrical arrays of artificial lighting fittings. Tables are at present under preparation at the Building Research Station for symmetrical layouts of glazed windows. The great majority of lighting installations, whether of daylight, or artificial light, or a combination of both, can be considered as symmetrical for purposes of glare calculation. Where this is not possible the Glare Index can be computed directly from the BRS Glare Formula as before. Architects will certainly find the tables difficult to handle without tuition, for they are intended for use by the specialist engineer, but there is in fact nothing basically difficult about them. Work is being done at the Building Research Station at the moment on protractors of similar construction to the well-known BRS Daylight Factor Protractors which will enable the architect to derive the Glare Index for daylight situations from his working drawings.

Tabulated lists of permissible Glare Index are given in the Code for every type of visual task, but it is emphasized that it is the environment in which these tasks are done, rather than the specific task itself which governs the limiting Glare Index. The principle behind these tabulated values is obvious when we think about it. A surgeon engaged on a delicate operation in an operating theatre cannot tolerate any glare, and so the limiting Glare Index in an operating theatre must be low. On the other hand a warehouseman making an occasional trip into a store to locate some material may not be bothered during his brief visit by quite a high degree of glare. Consequently the limiting Glare Index here can be high. The permissible glare in a hospital ward must be low, whereas in a rough machine shop it can be much higher. A careful appraisal by a trained team of observers who examined about 150 different lighting installations of a wide range of types gave the basic data from which have been derived all these recommended levels of limiting Glare Index.

A summing up

The new IES Code is an attempt to put some quantitative sense into those factors of lighting which the architect has always considered to be the most important, factors which he has often accused the pedestrian lighting engineer for neglecting. As a

result lighting has been made more precise, but it has not been made easier. The lighting engineer can now realize the architect's demands for play of light and for modelling, but he must apply time and skill in the process and cannot offer a cheap 'package deal.' The architect in turn is given much greater freedom over the control of the lighting environment because he is no longer constrained by limits on his daylight design, but he is also given much more responsibility for ensuring that the artificial lighting and the day-

lighting are properly integrated in a co-ordinated whole. It is up to the architect to rise to the occasion, because he can no longer blame the engineer for mistakes which are now partly his own responsibility. The challenge is not one that he need fear. It has already been met by the Ministry of Education, for example, in the lighting of schools, who have shown that a complex lighting problem can be solved by a sound knowledge of architectural, engineering, and fundamental visual principles.

THE INDUSTRY

Amalgamation in the timber industry

It was announced earlier this year that the English Joinery Manufacturers' Association and the Timber Development Association were getting together to consider how assistance could best be given by the two bodies to architects and engineers. EJMA had already put forward a proposal for amalgamating with the Scottish Joinery and Door Manufacturers' Association and the TDA's approved manufacturers. The proposal was for setting up within the new association five separate groups (doors, window and door frames, built-in units, general joinery and timber structures). The Council for the new body, which it was suggested should be called the British Woodwork Manufacturers' Association, would include the chairman of each of the five groups.

Any move to reduce the number of independent trade associations within any one industry is welcome. It is to be hoped, though, that none of the very many separate parts that go to make up the timber and joinery industries is neglected in any re-grouping. Subjects in which there is an obvious current interest, timber engineering for example, duly receive the attention of the trade and development associations; but, at the same time, there is plenty that can be done in other less spectacular directions such as the field of wood windows, in particular double glazing and ironmongery.

The English Joinery Manufacturers' Association, 40 Piccadilly, London, W.1.
Timber Development Association Limited, 21 College Hill, London, E.C.4.

Multi-outlet box

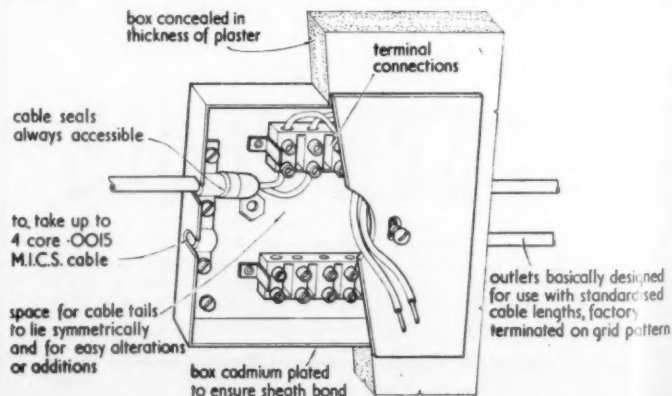
This new multi-outlet box, 1, is 4 in. square by $\frac{3}{4}$ in. deep and is manufactured in sheet steel and cadmium plated. It contains two 4-way removable 5-amp. shrouded connector units and two twin cable clamps. Provision is made for the cable sealing glands to be accessible at all times without interfering with the ceiling finish. Various cover plates are available. Amongst the advantages claimed for the outlet box are a reduction in scribed thickness on floor slabs due to having the box on the underside of the slab within the plaster finish, elimination of holes through the slab for the same reason and a considerable degree of flexibility in the event of last minute changes of mind by the client concerning switches or partitions. This is achieved by using spare cores in the cables and connector block assemblies. The box was designed primarily to be used with mineral insulated copper covered cables which can, of course, be clipped to the underside of slabs by any of the several semi-automatic tools now on the market. The manufacturers consider that the new outlet box will result in 'prefabricated' lighting installations in new commercial buildings.

Rashleigh Phipps and Company Limited, Thackeray Street, Kensington Square, London, W.8.

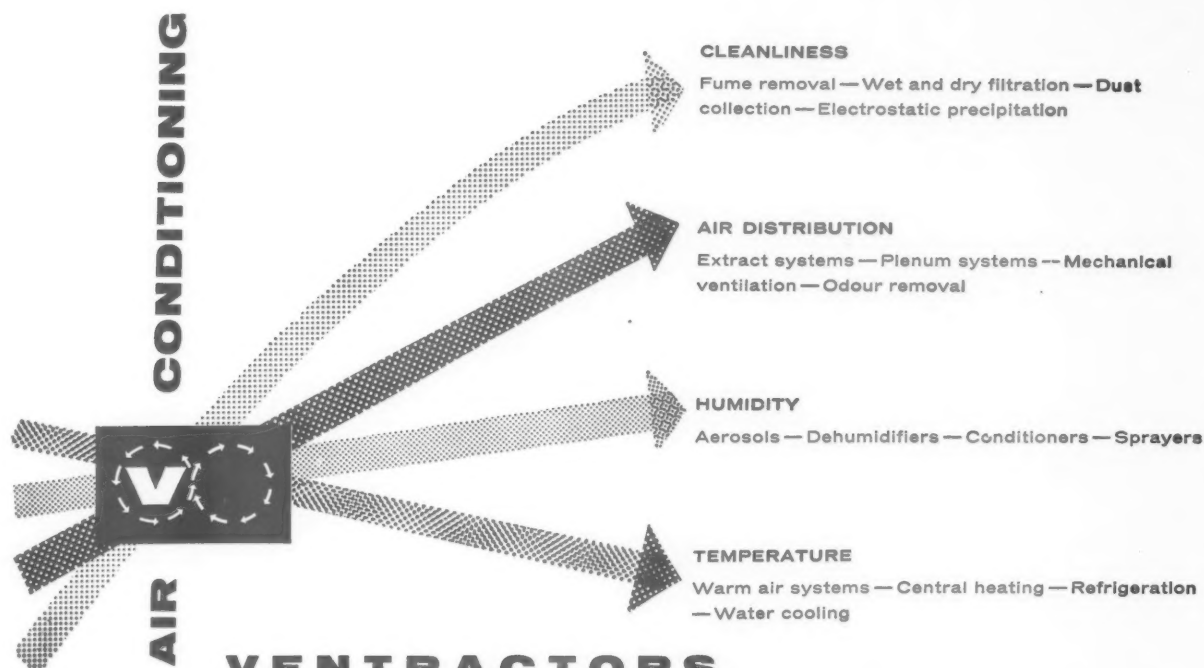
Wall cladding tiles

Brickbond wall cladding tiles have been designed and produced by Redland to simulate the appearance of a brick wall. Mortar is not used, the tiles being secret nailed to battens direct to lightweight block as will be

[continued on page 294]



1, cut-away section of multi-outlet box by Rashleigh Phipps.



VENTRACTORS

(AIR CONDITIONING) LIMITED

ENGINEERS, CONTRACTORS, CONSULTANTS,
COMPLETE SYSTEMS DESIGNED AND INSTALLED

163 HOLLAND PARK AVENUE LONDON W. 11 PARK 2341 (3 LINES)

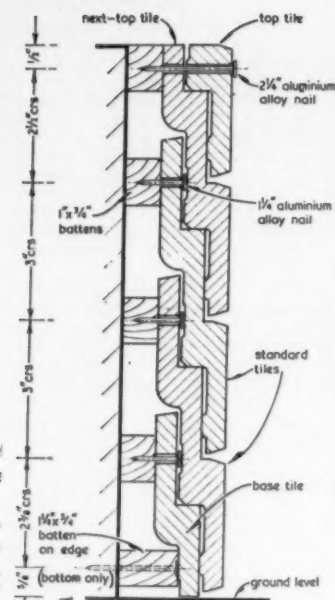


The Lounge Bar of the Grand Hotel, New Brighton, carpeted with Lokweave Woven Wilton Supplied by William Burnham of Liverpool Lokweave is inexpensive, hardwearing, and available in a comprehensive design range.

LOKWEAVE CARPETS FOR GRAND HOTEL the woven Wilton carpet with the pile locked through to the back by **CARPET TRADES** In a hotel, the choice of carpet is all important. Colour, pattern, mood, quality, budget — only the expert touch gives the perfect blend. Carpet Trades give individual attention to individual problems. Expert attention. Write today for fuller details of their contract service. **And now Super Lokweave** A new woven Wilton even more hardwearing than standard Lokweave. Ideal for all types of contract installations.

CARPET TRADES LIMITED · KIDDERMINSTER

Carpets are supplied only through normal trade channels.



2, section showing fixing of Brickbond cladding tiles.

[continued from page 292]

seen from the cross-section drawing, 2. The cladding can be used not only for new work but also for fixing to existing damp walls.

The system has been extremely well worked out and one wonders why on earth so much time and effort has been spent on producing an article to look like something else. Undoubtedly there may be instances where it is necessary to imitate brickwork—to match existing work for example; but one gains the impression that here is a sound product with a sensible fixing system which is being misused. Why do not the manufacturers exploit the possibilities of this product as a cladding material?

Brickbond tiles are guaranteed for 50 years against lamination and decay. They comply with the requirements of B.S. 473 *Concrete Plain Tiles* and the method of fixing with C.P. 142 *Slating and Tiling*. Colours are slate grey, lichen green and moorland stone and price per sq. yd. is approximately 16s. The leaflet describing the tiles is very well done, is to A4 size and has its SFB number on the top right-hand corner of the cover. *Redland Tiles Ltd., Castle Gate, Reigate, Surrey.*

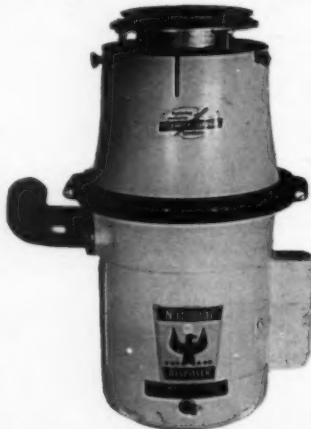
Urinal Stall

The urinal stall, 3, is made entirely from ICI acrylic sheet from a one-piece moulding. Size is 6 ft. 4 in. long, 3 ft. 9 in. high and 1 ft. 4 in. deep overall, and it is available in a range of colours. This represents a relatively new departure in the sanitary ware field and one which could lead to interesting developments. Will Thermo Plastics Limited, who were responsible for this, turn their attention to lavatory basins and w.c. pans? There is a considerable potential in this material, but it is to be hoped that the designers improve the appearance of the unit in further developments. They appear to be at the stage where the solution of production problems takes precedence over visual considerations.

Thermo Plastics Limited, Luton Road Works, Dunstable, Beds.

Refuse disposal units

Tayco Boilers Limited have brought on to the market two refuse disposal units. The units are designed for fitting under the sink and grind household refuse which is then washed away through the waste pipe. The units are electrically operated, each type having a 1/2 h.p. motor.



4, the Super 244-B refuse disposal unit.

The Super 244-B, 4, is a continuous feed type, that is to say refuse is fed continuously into the unit during operation. It includes a reverse power surge which enables blockages to be cleared easily. The retail price of this unit is £36 plus £5 12s. 6d. purchase tax. The unit projects 12 1/2 in. below the sink bowl.



5, manual by the British Aluminium Co.

The Custom 304-AC operates by a special locktop device. This can be set to 'seal,' 'drain' or 'grind' and the unit only operates in the 'grind' position. Price is £40 plus £6 8s. 3d. purchase tax. The unit projects 14 1/2 in. below the sink bowl. *Tayco Boilers Limited, 170/172 Victoria Street, London, S.W.1.*

Aluminium handbook

The dissemination of information has never been particularly efficient in the building industry. A few years ago *The Architects' Journal* awarded one of its Research Fellowships to Dargan Bullivant to study the subject of information for the architect. Since then the interest of architects (the largest 'user' group involved) has been aroused and the RIBA itself is beginning to give a lead not only on classification (the publication of its manual on the SFB system is imminent), but also on reasonable standards of presentation and content for manufacturers' trade literature. Needless to say, manufacturers' PROs and advertising agents have leapt on to the bandwagon for reform (as if they were not amongst the villains of the piece) and a general and heartening raising of the standards of trade literature is evident.

The British Aluminium Company's manual *Aluminium for Architects*, 5, appears to be a useful contribution to the information available to architects. It aims to provide general technical information about aluminium as a material as well as details about aluminium products and names and addresses of manufacturers. The company says that the information in the manual has been 'planned and executed to a large extent by architects for architects' (they were advised by Bruce Martin) and they hope to distribute copies of the manual to every architectural practice (presumably both public and private) in the country. *The British Aluminium Company Limited, Norfolk House, St. James' Square, London, S.W.1.*

Paints

Keystone Paint and Varnish Company Limited recently announced that they are now manufacturing a chlorinated rubber paint. Primers and finishes are compounded from plasticized rubber and specially selected pigments. The ingredients are said to be chemically inert and unaffected by a wide range of acids and alkalis. The rubber paint can be used on most materials—iron, steel, copper, zinc, aluminium, timber, concrete, plaster and brick—its

chief characteristic being a high degree of impermeability to water and water vapour. It is, therefore, suitable for protecting these materials when exposed to conditions of constant high humidity, steam, condensation and the like.

Keystone Paint and Varnish Company Limited, Hindley, Lancashire.

Copper tube for radiant heating

The Copper Development Association has just published a useful handbook entitled *Copper for Radiant Heating*. It is, in fact, a textbook on the subject of radiant panel heating and the following chapter headings give some idea of the useful information it contains: 'Copper Tubes and Joining,' 'Panel Design: Heat Loss Calculations,' 'Circulated Hot Water Systems: Panel Design and Location,' 'Electric Floor Warming: Panel Design and Location,' 'Floor and Ceiling Construction.' *Copper Development Association, 55 South Audley Street, London, W.1.*

CONTRACTORS etc

Undergraduate Rooms, Worcester College, Oxford. *Architects:* Sir Hugh Casson, Neville Conder and Partners. *General contractors:* Dove Brothers Ltd. *Sub-contractors:* *Roof:* Manchester Slate Co. *Insulation:* Stramit Boards Ltd. *Windows:* Crittall Manufacturing Co. *Light fittings:* Troughton & Young (Lighting) Ltd., Rotaflex (GB) Ltd. *Sliding door gear:* Ellards Sliding Door Gears Ltd. *Fascias:* Cheecol Process Ltd.

School at Highgate, London. *Architect:* Stephen Gardiner. *General contractor:* Bernard Sunley & Sons.

Boy Scouts' Hostel, Kensington, London. *Architect:* Ralph Tubbs. *General contractor:* Harry Neal Ltd. *Sub-contractors:* *Heating and ventilation:* Rosser & Russell Ltd. *Plumbing and drainage:* Richard J. Audrey Ltd. *Electrical installation:* Troughton & Young Ltd. *Metal windows:* Wainwright & Waring Ltd. *Built-up and asphalte roofing, Permasol paving:* Permanite Ltd. *Linoleum flooring:* Lino Installations Ltd. *Asphalte flooring:* Durable Asphalte Co. *Teak 'Alamac' flooring:* A. M. Macdougall & Son Ltd. *In-situ and pre-cast terrazzo, marble paving and slate facing:* Art Pavements and Decorators Ltd. *Floor and wall tiling:* Carter & Sons (London) Ltd. *Passenger and goods lifts:* Marryat & Scott Ltd. *Auditorium flush roof light:* Lenscrete Ltd. *Handrailing and balustrades:* R. Smith (Horley) Ltd. *Steel staircases:* S. W. Farmer & Son Ltd. *Flagstaffs:* Charles Butterfield Ltd. *Lightning protection installation:* R. C. Cutting & Co. *Blackout blinds:* J. Avery & Co. Ltd. *Steel fire door and collapsible steel gate:* Dennison, Kett & Co. *Internal telephones, public address and electric clocks:* The Reliance Telephone Co. *Kitchen equipment:* Benham & Sons Ltd. *Sliding door to dining room:* Geo. W. King Ltd. *External lettering:* Ward & Co. (Letters) Ltd. *Foundation and opening stones:* J. Whitehead & Sons Ltd. *External fleur-de-lys:* The Morris Singer Co. *Curtains:* Heals Contracts Ltd. *Carpets:* Thomas Tapling & Co. *Ironmongery:* Alfred G. Roberts Ltd. *Artificial stone:* Malcolm Macleod & Co. *Firefighting equipment:* L. & G. Fire Appliance Co. *Furniture:* W. H. Deane (High Wycombe) Ltd. *Venetian blinds:* The Crittall Manufacturing Co.



3, urinal stall by Thermo Plastics Ltd.

igh
ter
ore,
als
on-
en-

ot-
y.

g
so-
ful
ant
cook
eat-
ad-
eful
pper
ign:
ted
sign
rm-
on,

55

Col-
ugh
ers.
ners
an-
mit
tall
ngs:
td.,
ear:
td.

ect:
tor:

don.
eral
ub-
ion:
and
td.
&
ain-
and
ng:
ing:
alle
Co.
M.
and
and
ing
as-
&
roof
and
td.
Son
held
ion:
ads:
and
ett
blic
The
hen
td.
W.
d &
and
ons
The
eals
nas
G.
olm
ent:
ni-
be)
tall